

FIG. 1

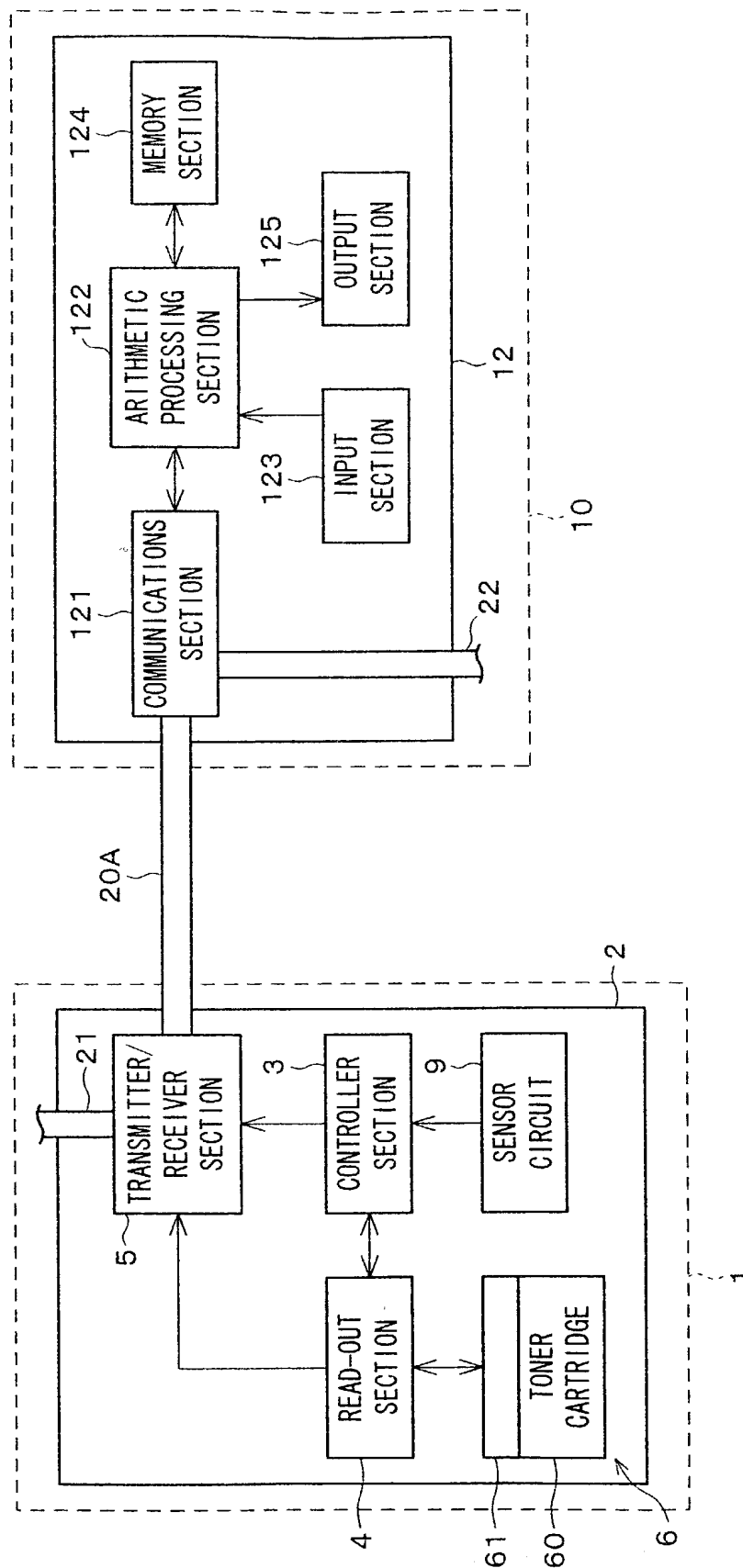


FIG. 2

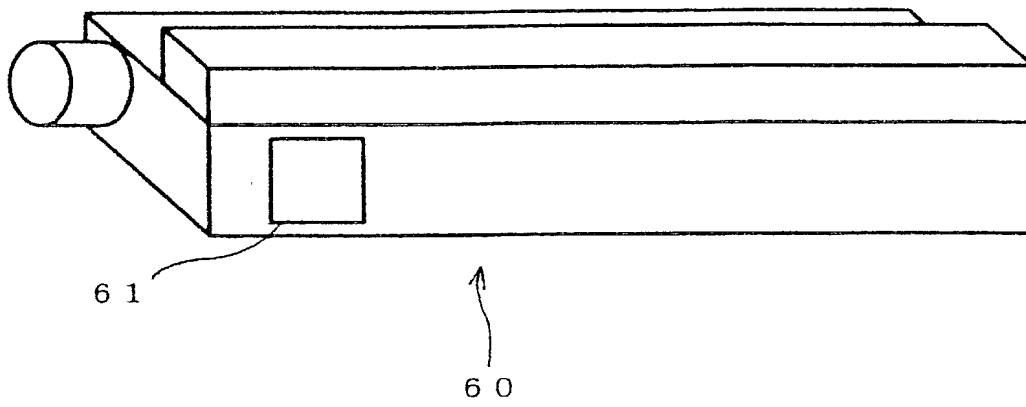


FIG. 3

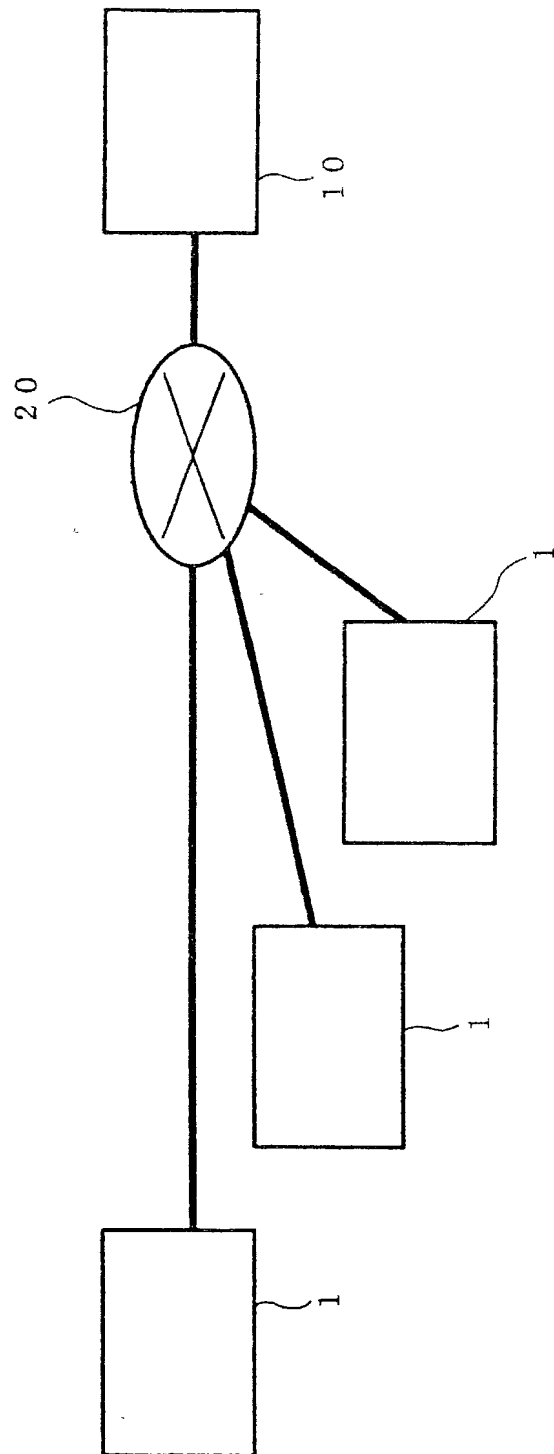


FIG. 4

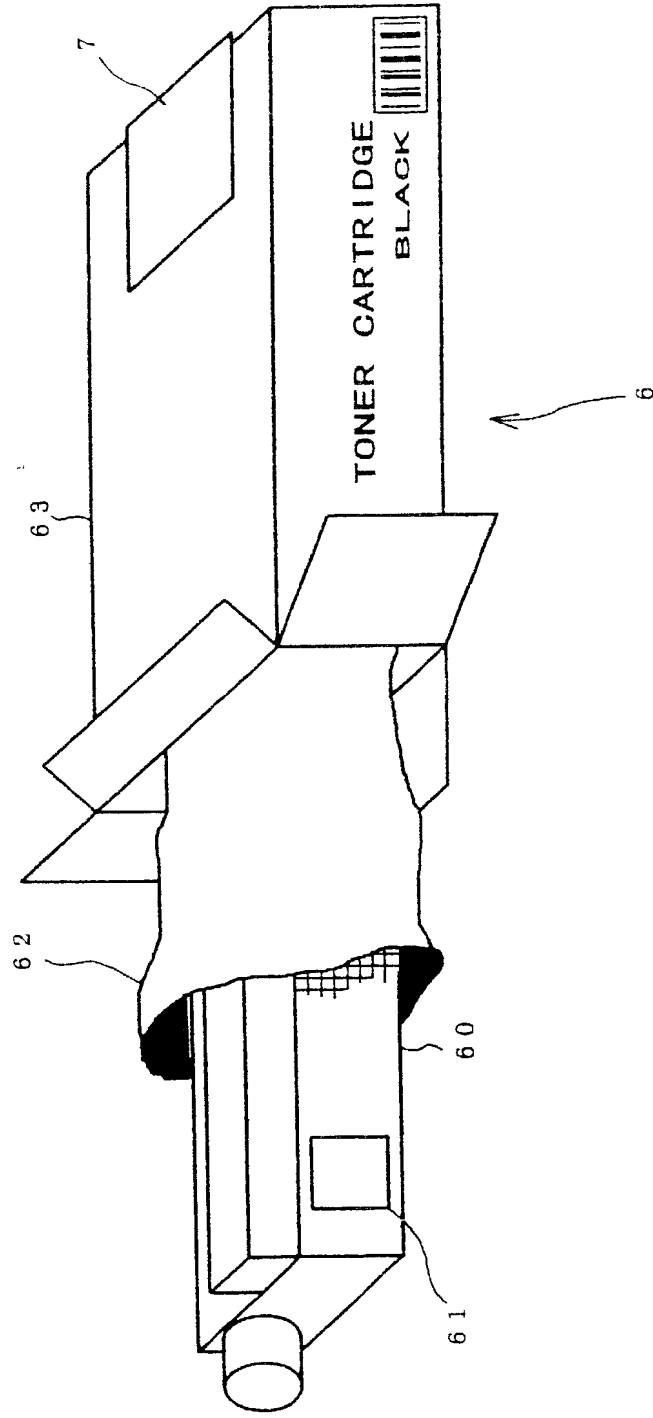


FIG. 5 (a)

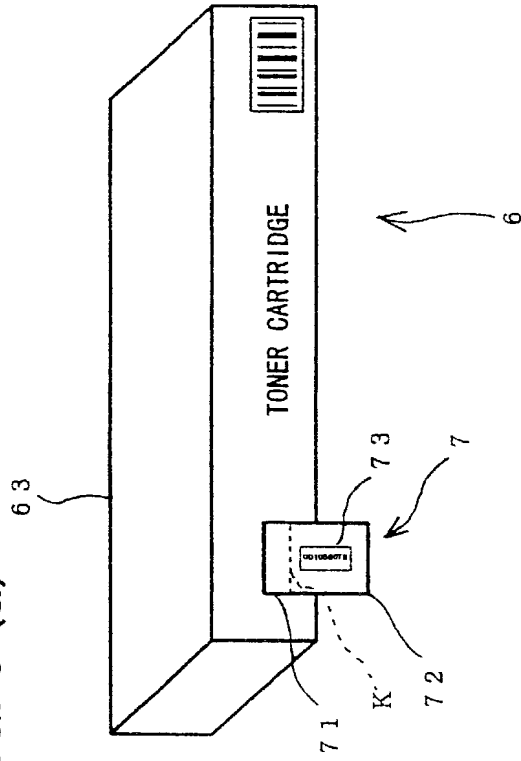


FIG. 5 (b)

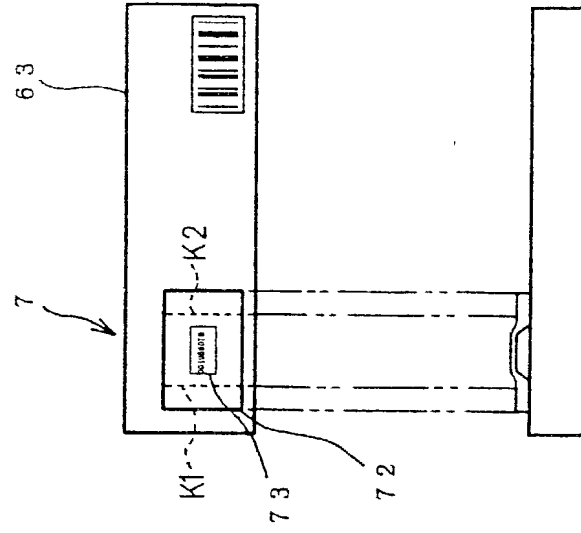


FIG. 5 (c)

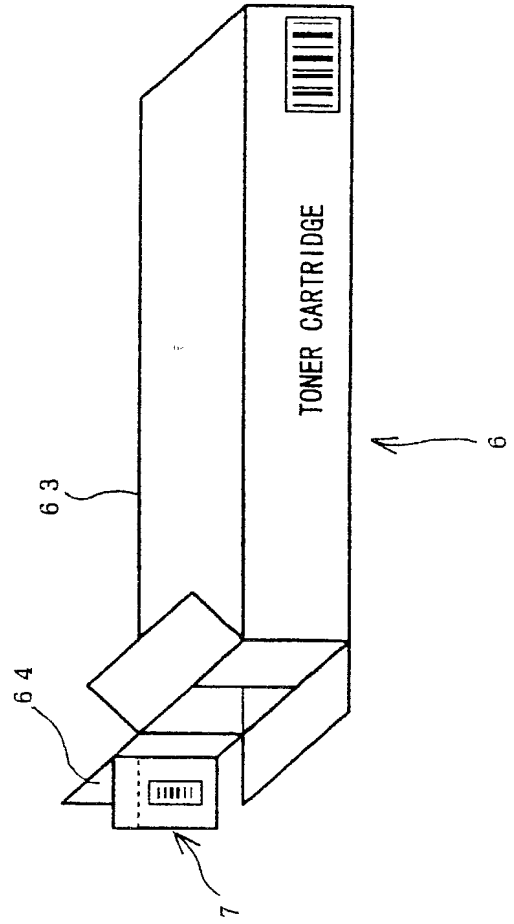


FIG. 6 (a)

PRODUCT-IN-CIRCULATION DATA TABLE [1]

CURRENT DATA AND TIME Tp: 10/28/2000

UNIQUE DATA	REMARKS	THE NUMBER OF TIMES COLLECTED N	ACCOUNTING
0000 0000 0000 0101 0000	BLACK TONER CARTRIDGE FOR AR-2000	3	CHARGED
0000 0000 0000 0101 0001		1	CHARGED
0000 0000 0000 0101 0010		2	UNCHARGED
...	
0100 0000 0000 0000 0100	YELLOW TONER CARTRIDGE FOR AR-2000	0	CHARGED
0100 0000 0000 0000 0101		0	UNCHARGED
...	
0100 0000 0000 0000 1100	MAGENTA TONER CARTRIDGE FOR AR-2000	0	CHARGED
0100 0000 0000 0000 1101		0	UNCHARGED
...	
1100 0000 0000 0000 0111	CYAN TONER CARTRIDGE FOR AR-2000	0	CHARGED
1100 0000 0000 0000 1000		0	UNCHARGED
...	

FIG. 6 (b)

PRODUCT-IN-CIRCULATION DATA TABLE [1]

CURRENT TADA AND TIME Tp: 10/28/2000

UNIQUE DATA	REMARKS	THE NUMBER OF TIMES COLLECTED N	ACCOUNTING
0000 0000 0000 0101 0000	BLACK TONER CARTRIDGE FOR AR-2000	3	CHARGED
0000 0000 0000 0101 0001		1	CHARGED
0000 0000 0000 0101 0010		2	UNCHARGED
...	
0100 0000 0000 0000 0100	YELLOW TONER CARTRIDGE FOR AR-2000	0	CHARGED
0100 0000 0000 0000 0101		1	UNCHARGED
...	
0100 0000 0000 0000 1100	MAGENTA TONER CARTRIDGE FOR AR-2000	0	CHARGED
0100 0000 0000 0000 1101		1	UNCHARGED
...	
1100 0000 0000 0000 0111	CYAN TONER CARTRIDGE FOR AR-2000	0	CHARGED
1100 0000 0000 0000 1000		1	UNCHARGED
...	

FIG. 6 (c)

PRODUCT-IN-CIRCULATION DATA TABLE [2]

CURRENT TADA AND TIME Tp: 10/28/2000

UNIQUE DATA	REMARKS	THE NUMBER OF TIMES COLLECTED N	ACCOUNTING
...
0010 0000 0000 0000 0000	APPLICATION SOFTWARE "DATA SEARCH" Ver. 1.0	0	CHARGED
0010 0000 0000 0000 0001		2	UNCHARGED
0010 0000 0000 0000 0010		2	UNCHARGED
...	
0010 0000 0000 1000 0000	APPLICATION SOFTWARE "DATA SEARCH" Ver. 2.0	0	CHARGED
0010 0000 0000 1000 0001		1	CHARGED
0010 0000 0000 1000 0010		1	UNCHARGED
...	
...
0010 0001 0000 0000 0000	APPLICATION SOFTWARE "TRANSLATION ASSISTANT"	0	CHARGED
0010 0001 0000 0000 0001		0	CHARGED
0010 0001 0000 0000 0010		1	UNCHARGED
...

FIG. 7 (a)

CONTRACT SIGNER TABLE[1]

ID NUMBER	NAME OF CONTRACT SIGNER	STREET ADDRESS	EMAIL ADDRESS	TELEPHONE NO.	DATE OF CONTRACT SIGNED	METHOD OF PAYMENT	...
000001	A CO., LTD.						
000002	B INC.	GENERAL AFFAIRS DEPARTMENT					
000003	C CO., LTD.	ABC DIVISION					
000004	C CO., LTD.	XYZ DIVISION					
000005							
...							

FIG. 7 (b)

CONTRACT SIGNER TABLE[2]

ID NUMBER	CONTRACT MODEL1	CONTRACT MODEL2	CONTRACT MODEL3	...
000001	AR-2000	NO CONTRACT	NO CONTRACT	
000002	AR-2000	NO CONTRACT	NO CONTRACT	
000003	AR-2000	AR-2001	NO CONTRACT	
000004	AR-2000	NO CONTRACT	NO CONTRACT	
000005				
...				

14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

FIG. 9 (a) INSTALLED CARTRIDGE DATA

MACHINE MODEL		AR-2000		LIBRE	
CONTRACT SIGNER ID		000125			

CARTRIDGE TYPE	DATE OF REPLACEMENT	INSTALLED CARTRIDGE DATA			THE NUMBER OF TIMES COLLECTED N	CORRESPONDING SPARE CARTRIDGE No.
		FULL DATA (FULL DIGITS)	COLOR DATA (FIRST TWO DIGITS)	MODEL DATA		
BLACK	N/A	N/A	N/A	N/A	N/A	N/A
YELLOW	N/A	N/A	N/A	N/A	N/A	N/A
MAGENTA	N/A	N/A	N/A	N/A	N/A	N/A
CYAN	N/A	N/A	N/A	N/A	N/A	N/A
PHOTOSENSITIVE BODY	N/A	N/A	N/A	N/A	N/A	N/A

FIG. 9 (b) SPARE CARTRIDGE DATA

MACHINE MODEL		AR-2000		LIBRE	
CONTRACT SIGNER ID		000125			

DATE

03/21/2000/15:58

CONFIRM

REGISTER

CANCEL

No.	DATE OF DELIVERY	DATE OF INSTALLATION	SPARE CARTRIDGE DATA			CURRENT STATUS	THE NUMBER OF TIMES COLLECTED N	
			FULL DATA (FULL DIGITS)	COLOR DATA (FIRST TWO DIGITS)	MODEL DATA			UNIQUE DATA
1	3/22/2000	—	0000 0000 0000 0101 0000	BLACK TONER(00)	AR-2000	0000 0000 0101 0000	NEW (SPARE)	3
2	3/22/2000	—	0100 0000 0000 0000 0100	YELLOW TONER(01)	AR-2000	0000 0000 0000 0100	NEW (SPARE)	0
3	3/22/2000	—	1000 0000 0000 0000 1100	MAGENTA TONER(10)	AR-2000	0000 0000 0000 1100	NEW (SPARE)	0
4	3/22/2000	—	1100 0000 0000 0000 0111	CYAN TONER(11)	AR-2000	0000 0000 0000 0111	NEW (SPARE)	0
5	3/22/2000	—	0000 0000 0000 0101 0001	BLACK TONER(00)	AR-2000	0000 0000 0101 0001	NEW (SPARE)	1
6	3/22/2000	—	0100 0000 0000 0000 0101	YELLOW TONER(01)	AR-2000	0000 0000 0000 0101	NEW (SPARE)	0
7	3/22/2000	—	1000 0000 0000 0000 1101	MAGENTA TONER(10)	AR-2000	0000 0000 0000 1101	NEW (SPARE)	0
8	3/22/2000	—	1100 0000 0000 0000 1000	CYAN TONER(11)	AR-2000	0000 0000 0000 1000	NEW (SPARE)	0
9	.							
10	.							

FIG. 11 (a) INSTALLED CARTRIDGE DATA

MACHINE MODEL		AR-2000		LIBRE	
CONTRACT SIGNER ID		000125			

CARTRIDGE TYPE	DATE OF REPLACEMENT	INSTALLED CARTRIDGE DATA			THE NUMBER OF TIMES COLLECTED N	CORRESPONDING SPARE CARTRIDGE No.
		FULL DATA (FULL DIGITS)	COLOR DATA (FIRST TWO DIGITS)	MODEL DATA		
BLACK	6/12/2000	0000 0000 0000 0101 0001	BLACK TONER(00)	AR-2000	0000 0000 0101 0001	1 0(No. 5)
YELLOW	3/22/2000	0100 0000 0000 0000 0100	YELLOW TONER(01)	AR-2000	0000 0000 0000 0100	0 1(No. 2)
MAGENTA	3/22/2000	1000 0000 0000 0000 1100	MAGENTA TONER(10)	AR-2000	0000 0000 0000 1100	0 1(No. 3)
CYAN	3/22/2000	1100 0000 0000 0000 0111	CYAN TONER(11)	AR-2000	0000 0000 0000 0111	0 1(No. 4)

PHOTOSENSITIVE BODY	N/A	N/A	N/A	N/A	N/A	N/A
---------------------	-----	-----	-----	-----	-----	-----

FIG. 11 (b) SPARE CARTRIDGE DATA

MACHINE MODEL		AR-2000		LIBRE	
CONTRACT SIGNER ID		000125			

DATE

06/12/2000/10:56

CONFIRM

REGISTER

CANCEL

No.	DATE OF DELIVERY	DATE OF INSTALLATION	SPARE CARTRIDGE DATA			CURRENT STATUS	THE NUMBER OF TIMES COLLECTED N
			FULL DATA (FULL DIGITS)	COLOR DATA (FIRST TWO DIGITS)	MODEL DATA		
1	3/22/2000	3/22/2000	0000 0000 0000 0101 0000	BLACK TONER(00)	AR-2000	0000 0000 0101 0000	USED 3
2	3/22/2000	3/22/2000	0100 0000 0000 0000 0100	YELLOW TONER(01)	AR-2000	0000 0000 0000 0100	IN USE 0
3	3/22/2000	3/22/2000	1000 0000 0000 0000 1100	MAGENTA TONER(10)	AR-2000	0000 0000 0000 1100	IN USE 0
4	3/22/2000	3/22/2000	1100 0000 0000 0000 0111	CYAN TONER(11)	AR-2000	0000 0000 0000 0111	IN USE 0
5	3/22/2000	6/12/2000	0000 0000 0000 0101 0001	BLACK TONER(00)	AR-2000	0000 0000 0101 0001	IN USE 1
6	3/22/2000	—	0100 0000 0000 0000 0101	YELLOW TONER(01)	AR-2000	0000 0000 0000 0101	NEW (SPARE) 0
7	3/22/2000	—	1000 0000 0000 0000 1101	MAGENTA TONER(10)	AR-2000	0000 0000 0000 1101	NEW (SPARE) 0
8	3/22/2000	—	1100 0000 0000 0000 1000	CYAN TONER(11)	AR-2000	0000 0000 0000 1000	NEW (SPARE) 0
9							
10							

FIG.13

ACCOUNTING LIST[1] (PERIOD: MARCH 16, 2000 - APRIL 15, 2000)

CONTRACT SIGNER ID:000125
CONTRACT MODEL:AR-2000 LIBRE

No.	PRODUCT	ACCOUNT FACTOR	DATE OF INSTALLATION	QUANTITY	UNIT PRICE	SUBTOTAL
1	BLACK TONER CARTRIDGE	k3	3/22/2000	1	Pb	Pb * k3
2	YELLOW TONER CARTRIDGE	1	3/22/2000	1	Py	Py
3	MAGENTA TONER CARTRIDGE	1	3/22/2000	1	Pm	Pm
4	CYAN TONER CARTRIDGE	1	3/22/2000	1	Pc	Pc
5						
TOTAL						△△△△. △

ACCOUNTING LIST[2] (PERIOD: APRIL 16, 2000 -MAY 15, 2000)

CONTRACT SIGNER ID:000125
CONTRACT MODEL:AR-2000 LIBRE

No.	PRODUCT	ACCOUNT FACTOR	DATE OF INSTALLATION	QUANTITY	UNIT PRICE	SUBTOTAL
1	NO DATA					0
2						
3						
4						
5						
TOTAL						0

ACCOUNTING LIST[3] (PERIOD: MAY 16, 2000 -JUNE 15, 2000)

CONTRACT SIGNER ID:000125
CONTRACT MODEL:AR-2000 LIBRE

No.	PRODUCT	ACCOUNT FACTOR	DATE OF INSTALLATION	QUANTITY	UNIT PRICE	SUBTOTAL
1	BLACK TONER CARTRIDGE	k1	6/12/2000	1	Pb	Pb * k1
2						
3						
4						
5						
TOTAL						Pb * k1

FIG. 14

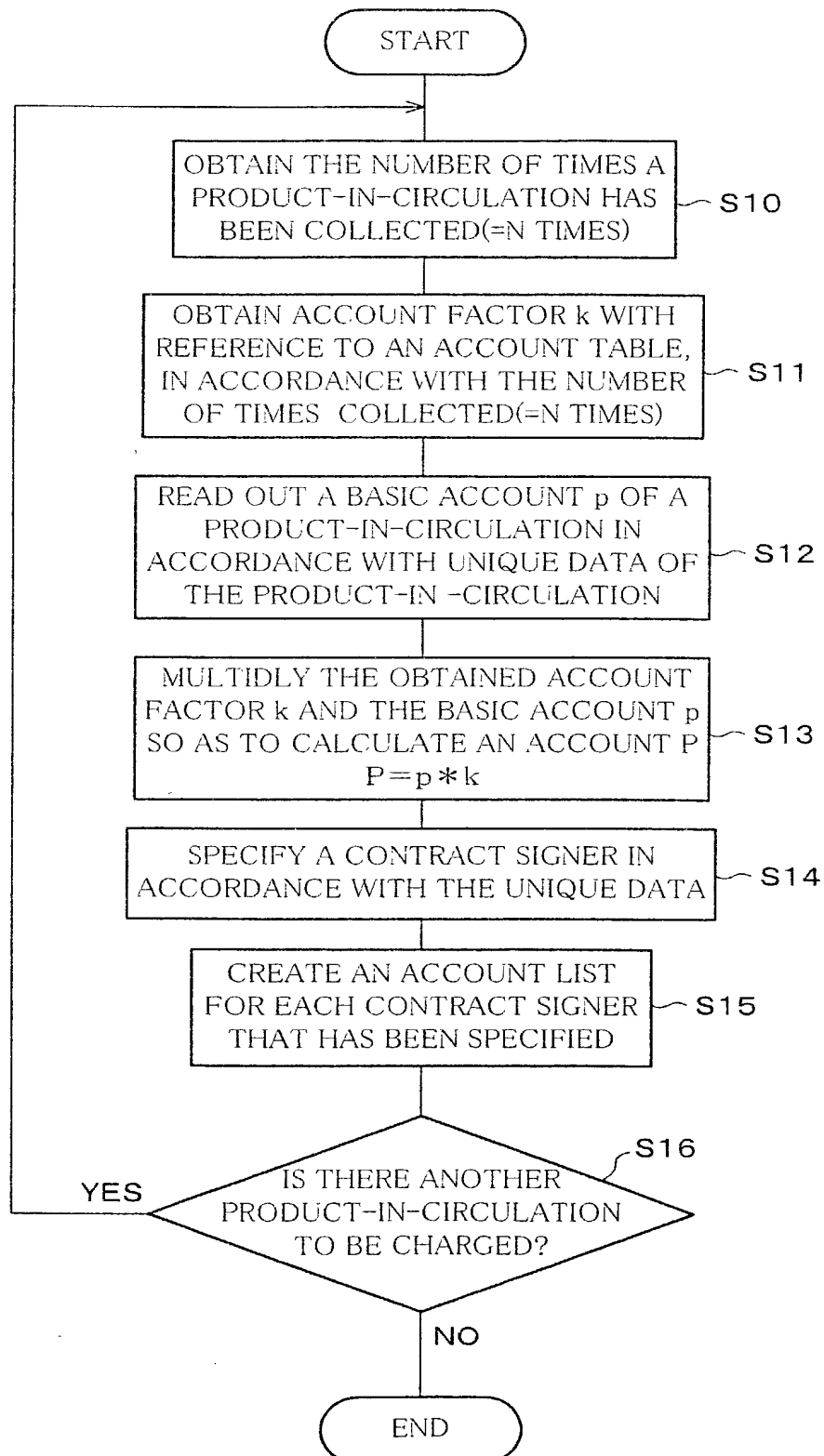


FIG. 15

FIG.16 (a)

BASIC ACCOUNT TABLE [1]

UNIQUE DATA	REMARKS	BASIC ACCOUNT p
0000 XXXX XXXX XXXX	BLACK TONER CARTRIDGE FOR AR-2000	p 1
...
0100 XXXX XXXX XXXX	YELLOW TONER CARTRIDGE FOR AR-2000	p 2
...
1000 XXXX XXXX XXXX	MAGENTA TONER CARTRIDGE FOR AR-2000	p 3
...
1100 XXXX XXXX XXXX	CYAN TONER CARTRIDGE FOR AR-2000	p 4
...

XXXX IS ARBITRARY 0 or 1

FIG.16 (b)

BASIC ACCOUNT TABLE [2]

UNIQUE DATA	REMARKS	BASIC ACCOUNT p'
0010 0000 XXXX XXXX	APPLICATION SOFTWARE "DATA SEARCH"	p 1'
...
0010 0001 XXXX XXXX	APPLICATION SOFTWARE "TRANSLATION ASSISTANT"	p 2'
...
1100 XXXX XXXX XXXX	UNRECORDED VHS TAPE	p 3'
...
1101 XXXX XXXX XXXX	UNRECORDED DV TAPE	p 4'
...
0100 0000 XXXX XXXX	DVD VIDEO "XXX"	p 5'
...

XXXX IS ARBITRARY 0 or 1

UNIQUE DATA-CONTRACT SIGNER ID TABLE

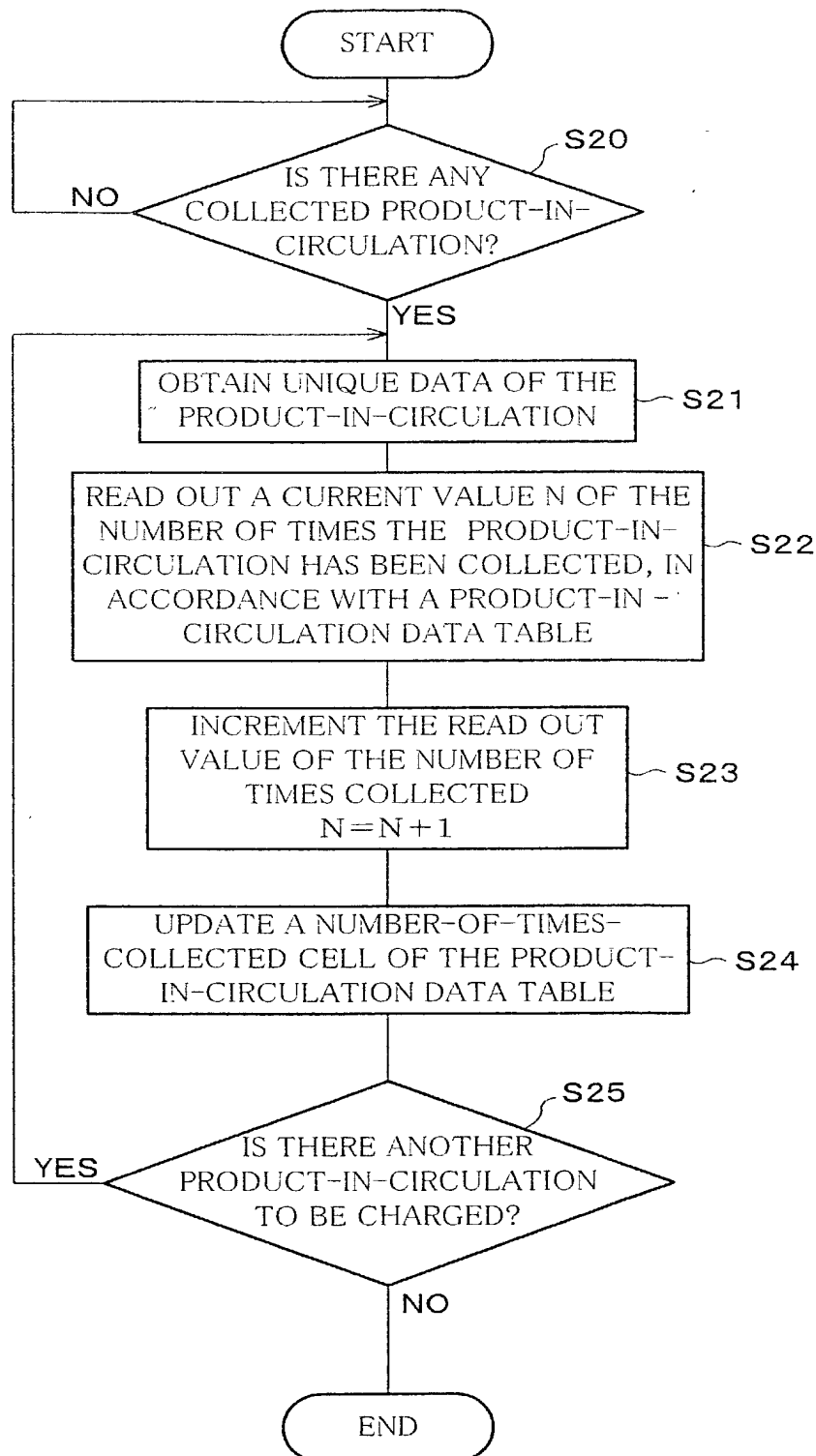
FIG. 17 (a)

CURRENT DATA AND TIME : 3/22/2000		
UNIQUE DATA	REMARKS	CONTRACT SIGNER ID
0000 0000 0000 0000 0000	BLACK TONER CARTRIDGE FOR AR-2000	001604
0000 0000 0000 0000 0001		001604
...		...
0000 0000 0000 0101 0000		000125
0000 0000 0000 0101 0001		000125
0000 0000 0000 0101 0010		000209
...	YELLOW TONER CARTRIDGE FOR AR-2000	...
0100 0000 0000 0000 0000		003161
...		...
0100 0000 0000 0000 0100		000125
0100 0000 0000 0000 0101		000125
...	MAGENTA TONER CARTRIDGE FOR AR-2000	...
1000 0000 0000 0000 0000		03161
...		...
1000 0000 0000 0000 1100		000125
1000 0000 0000 0000 1101	CYAN TONER CARTRIDGE FOR AR-2000	000125
...		...
1100 0000 0000 0000 0000		03161
...		...
1100 0000 0000 0000 0111		000125
1100 0000 0000 0000 1000		000125
...

FIG. 17 (b)

CURRENT DATA AND TIME : 6/20/2000		
UNIQUE DATA	REMARKS	CONTRACT SIGNER ID
0000 0000 0000 0000 0000	BLACK TONER CARTRIDGE FOR AR-2000	001604
0000 0000 0000 0000 0001		—
...		...
0000 0000 0000 0101 0000		000125
0000 0000 0000 0101 0001		000125
0000 0000 0000 0101 0010		000209
...	YELLOW TONER CARTRIDGE FOR AR-2000	...
0100 0000 0000 0000 0000		003161
...		...
0100 0000 0000 0000 0100		000125
0100 0000 0000 0000 0101		102611
...	MAGENTA TONER CARTRIDGE FOR AR-2000	...
1000 0000 0000 0000 0000		03161
...		...
1000 0000 0000 0000 1100		000125
1000 0000 0000 0000 1101	CYAN TONER CARTRIDGE FOR AR-2000	102611
1100 0000 0000 0000 0000		03161
...		...
1100 0000 0000 0000 0111		000125
1100 0000 0000 0000 1000		102611
...

FIG. 18



THE UNIVERSITY OF CHICAGO

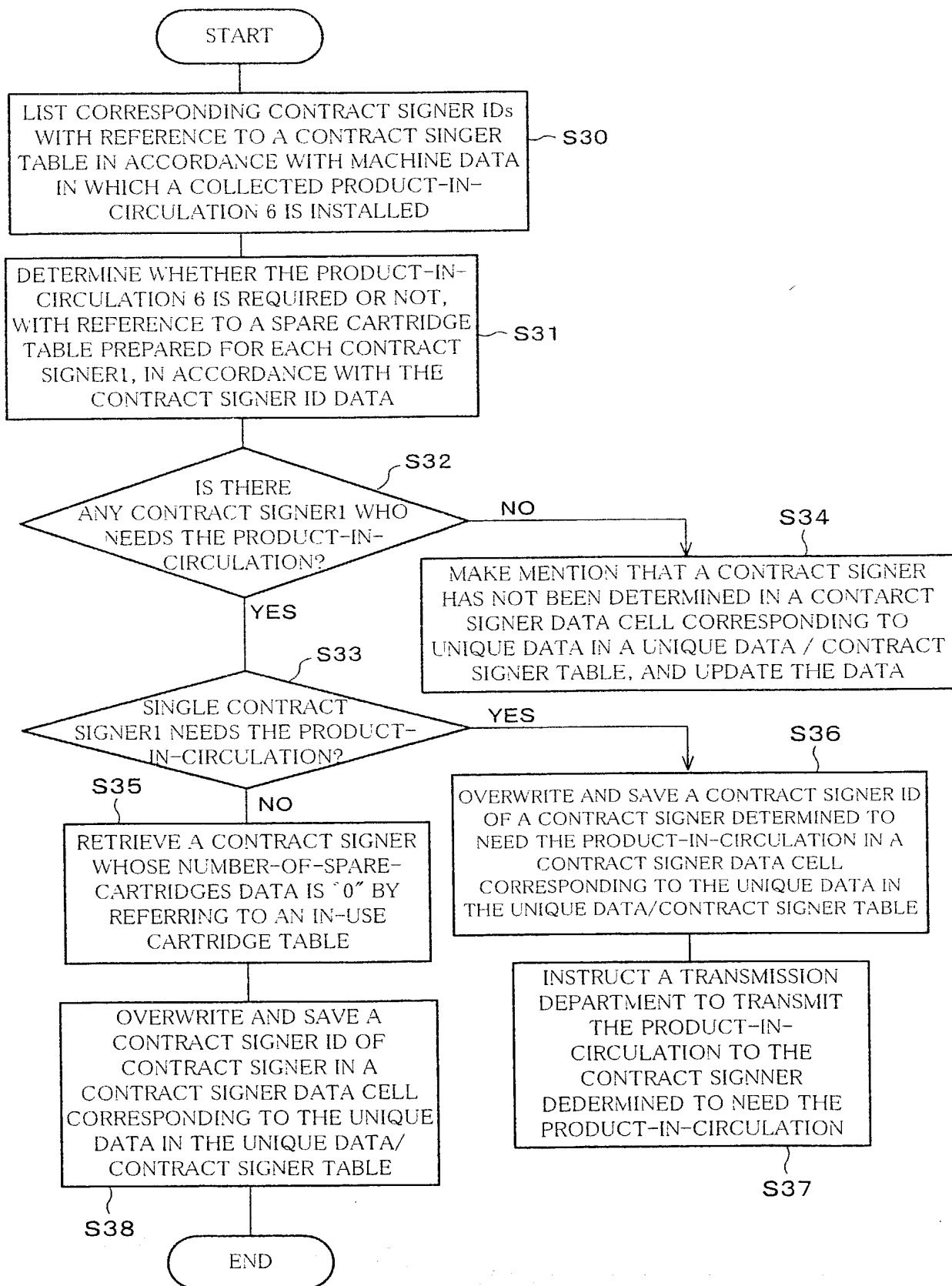


FIG. 20

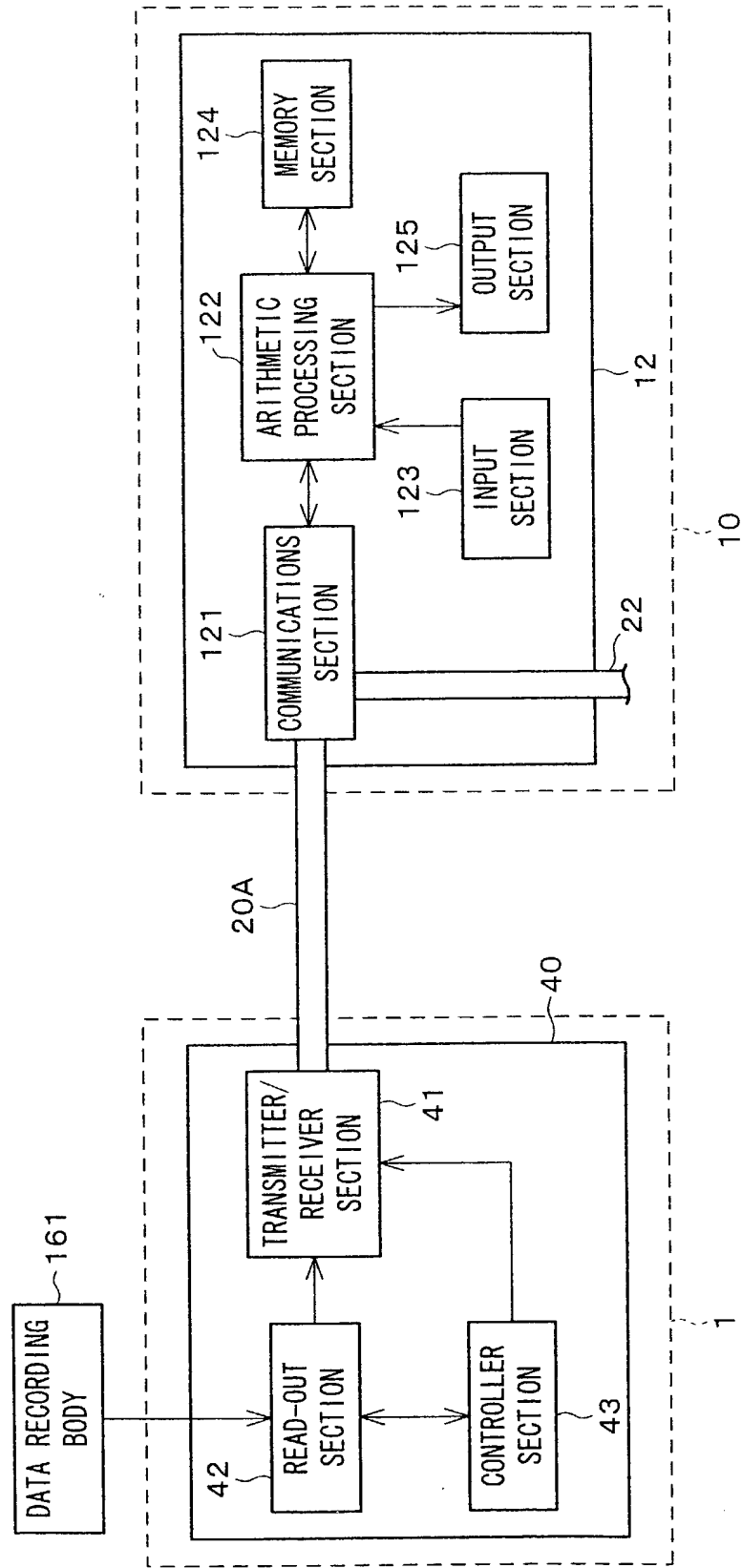


FIG. 21 (a)

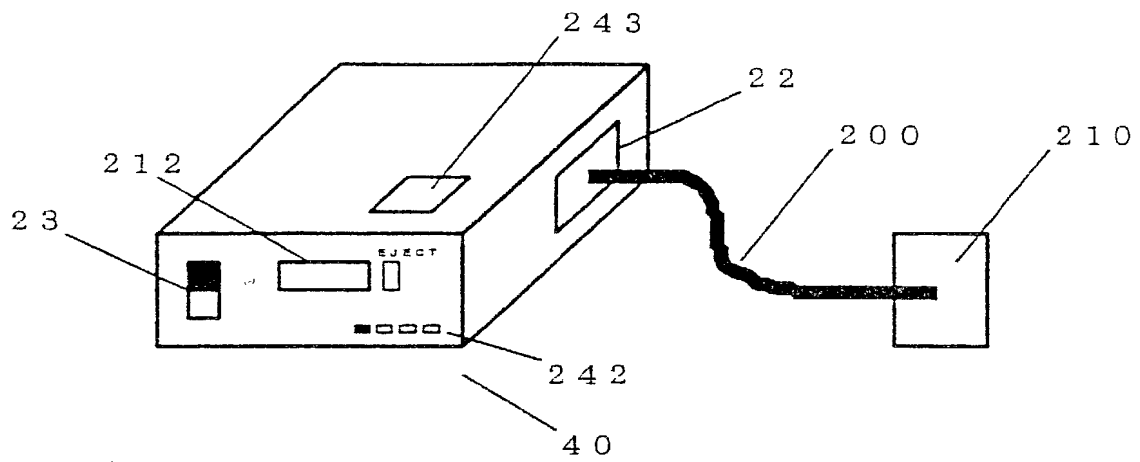


FIG. 21 (b)

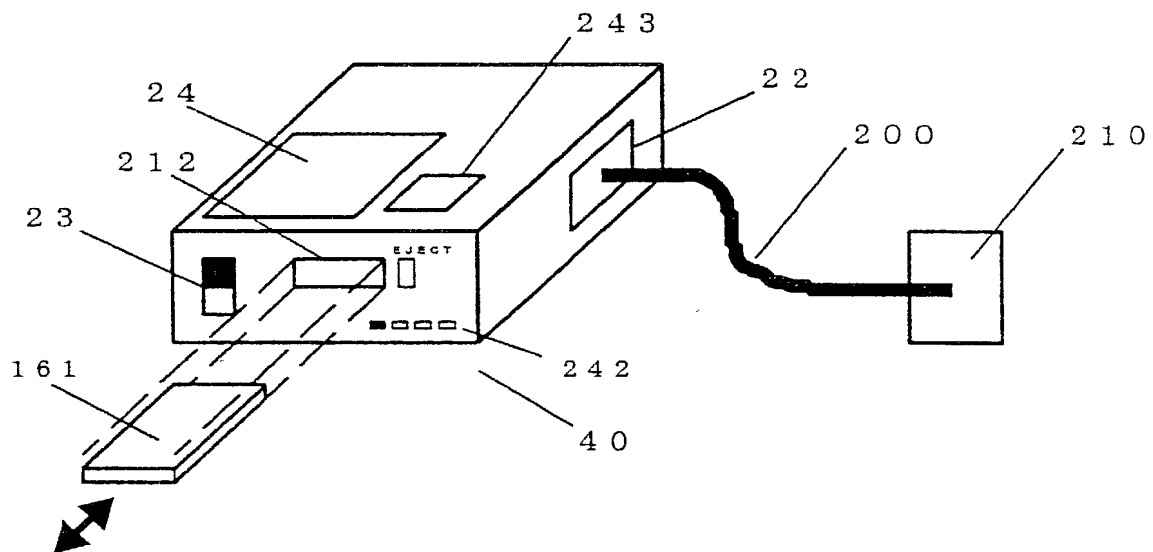


FIG. 22 (a)

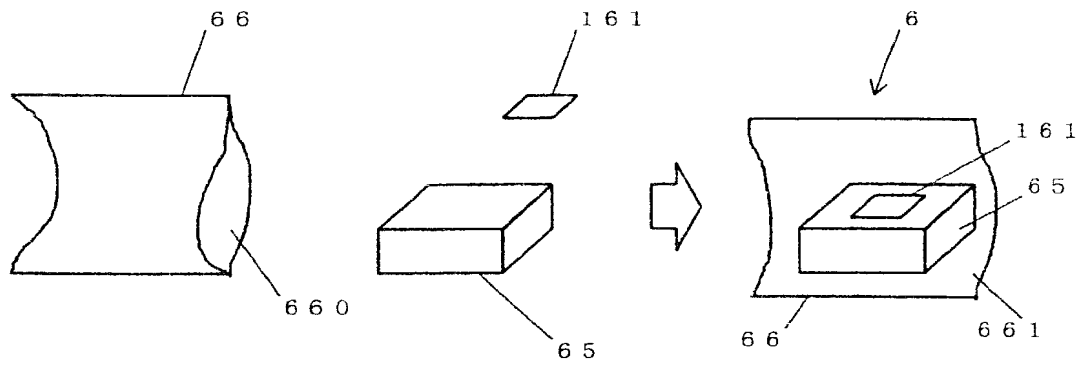


FIG. 22 (b)

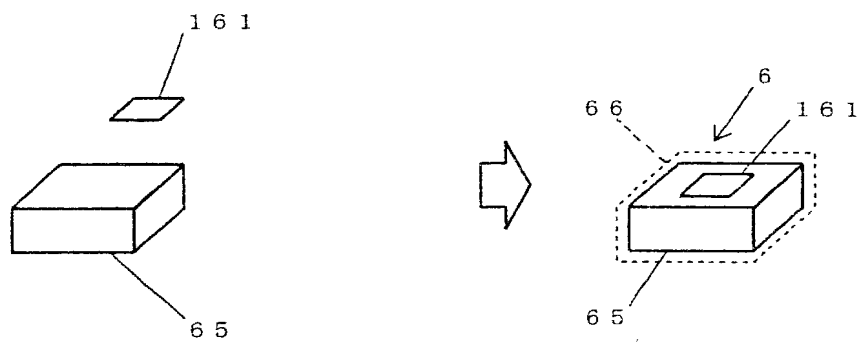


FIG. 22 (c)

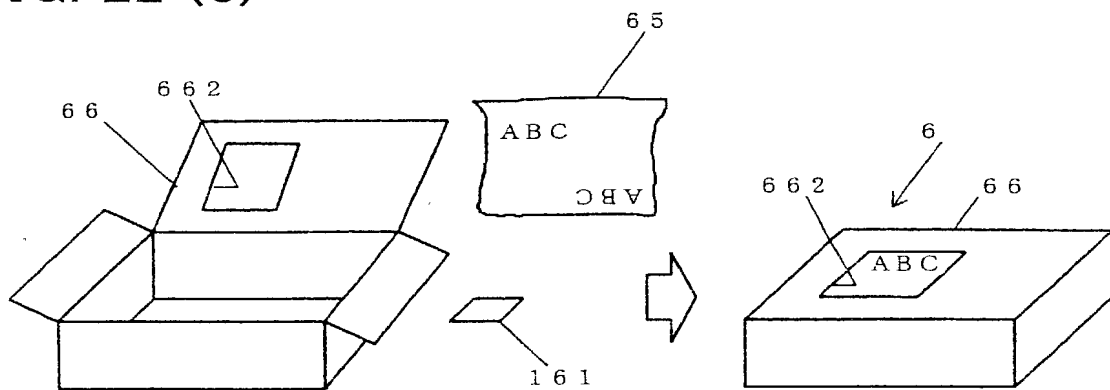


FIG. 23 (a)

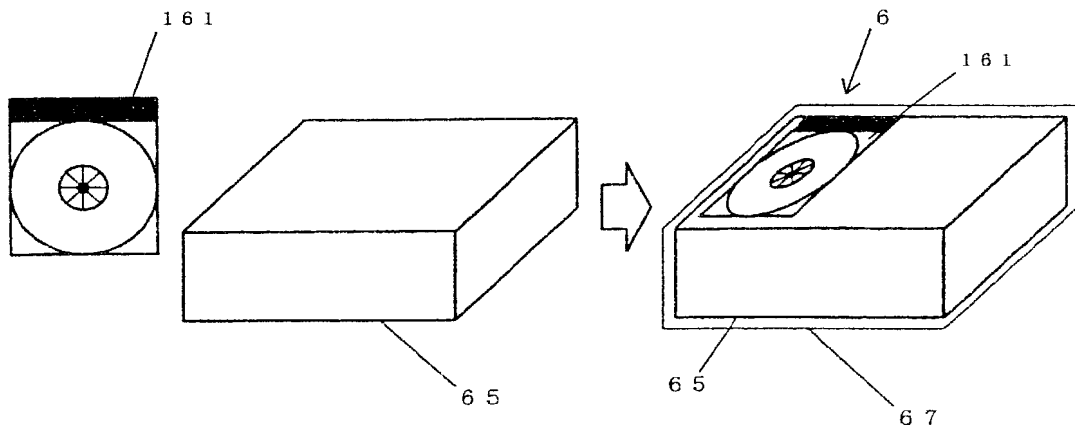


FIG. 23 (b)

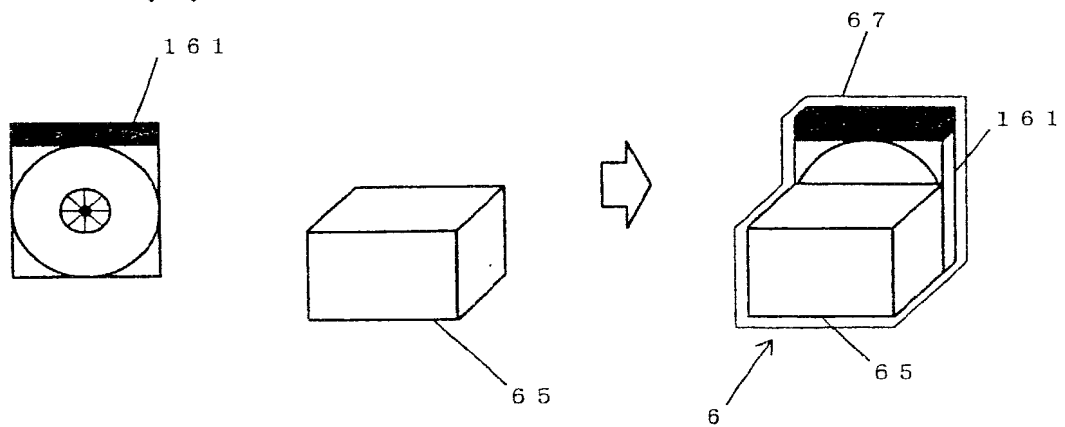


FIG. 23 (c)

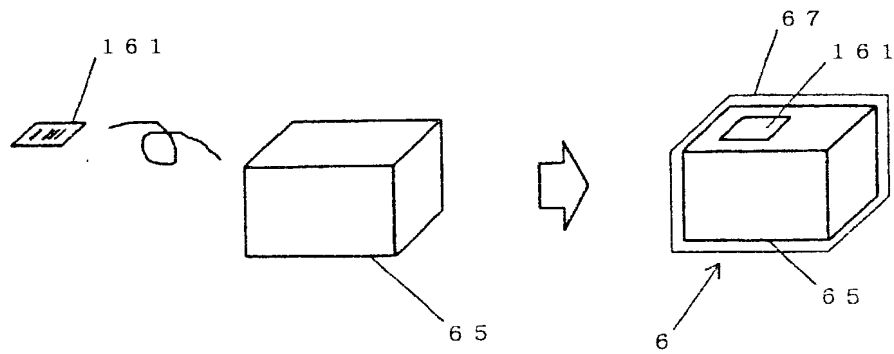


FIG. 25 (a)

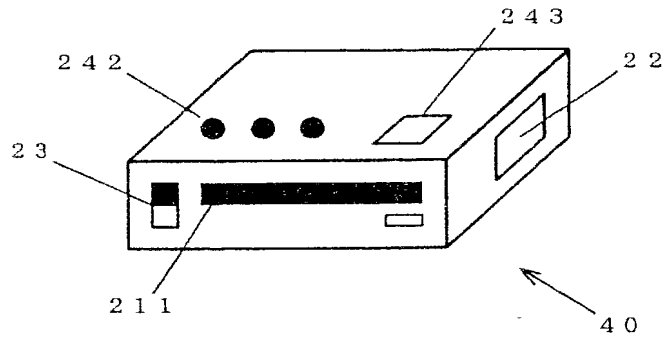


FIG. 25 (b)

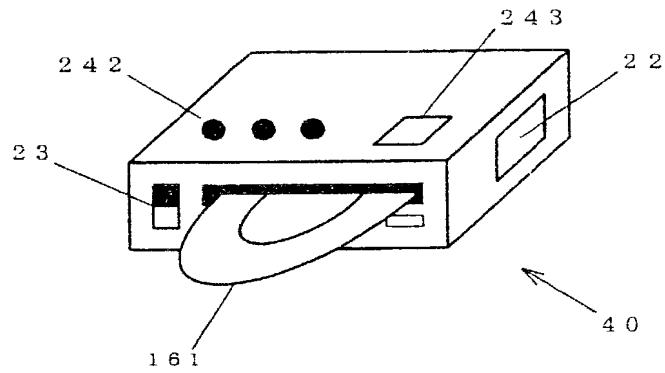


FIG. 25 (c)

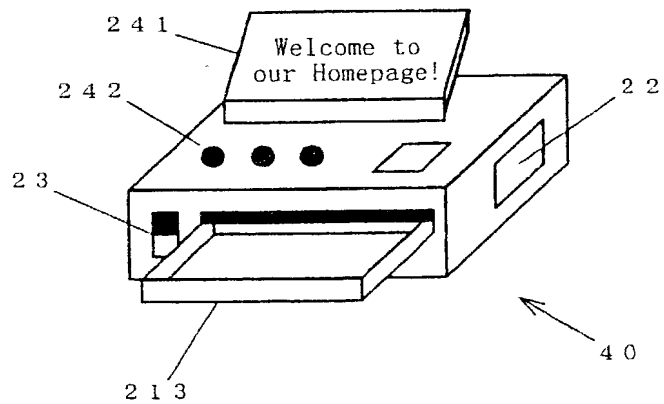


FIG. 26

TERMINAL STATION TABLE

TERMINAL STATION ID	CONTRACT SIGNER ID
000001	000001
000002	216320
000003	002560
000004	380905
000005	102611
.	
.	
.	
.	

CUSTOMER TABLE

CONTRACT SIGNER ID	NAME	REMARKS
000001	△△ △△	PRIVATE
000002	▲▲▲ ▲	PRIVATE
000003	○ ○○	CORPORATE
000004	□□ □□□	PRIVATE
000005		
.		
.		
.		
.		



CONTRACT SIGNER ID : 000125

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840.

FIG. 28

CONTRACT SIGNER ID : 000125

| SPARE ARTICLE DATA | | | | | | | | | | | | | | | | |
|--------------------|------------------------|------------------------|--------------------------|----------------------------|----------------|-----------------|-------------------|------------------------------|------------------|-----------------------------|--|-------------------------|------------------------------------|-----------------|--|--|
| No. | DATE OF DELIVERY
Td | DATE OF PURCHASE
Tp | DATE OF COLLECTION
Tc | FULL DATA
(FULL DIGITS) | TOP LEVEL | | SECOND LEVEL | | THIRD LEVEL | | | | THE NUMBER OF TIMES COLLECTED
N | PURCHASE STATUS | | |
| | | | | | TOP LEVEL CODE | TOP LEVEL | SECOND LEVEL CODE | SECOND LEVEL | THIRD LEVEL CODE | TITLE | REMARKS 1 | REMARKS 2 | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 1 | 3/1/2000 | — | — | 0010 0000 0000 0101 0000 | 00 | CD-ROM | 10 | APPLI-
CATION
SOFTWARE | 0000 | "DATA
SEARCHI" | DATA SEARCHI,
EXPLOITATION
SOFTWARE | FOR PC
USE | 1 | NEW
(SPARE) | | |
| 2 | 3/1/2000 | — | — | 0010 0001 0000 0000 0100 | 00 | CD-ROM | 10 | APPLI-
CATION
SOFTWARE | 0001 | "TRANSLATION
ASSISTANT " | JAPANESE
ENGLISH
TRANSLATION
ASSISTANT | " | 1 | NEW
(SPARE) | | |
| 3 | 3/1/2000 | — | — | 0010 0010 0000 0000 1100 | 00 | CD-ROM | 10 | APPLI-
CATION
SOFTWARE | 0010 | "INTERNET
SUPPORT" | INTERNET
USABILITY
ENHANCEMENT
SOFTWARE | " | 2 | NEW
(SPARE) | | |
| 4 | 3/1/2000 | — | — | 1100 0000 0000 0000 0111 | 11 | EMPTY
MEDIUM | 00 | V H S | N/A | — | GENERAL USE
(FIVE IN ONE
PACK) | " | 0 | NEW
(SPARE) | | |
| 5 | 3/1/2000 | — | — | 1101 0000 0000 0101 0001 | 11 | EMPTY
MEDIUM | 01 | D V | N/A | — | GENERAL USE
(FIVE IN ONE
PACK) | FOR
"DIGITAL
VIEW | 2 | NEW
(SPARE) | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |

1100 0000 0000 0000 0111
 1101 0000 0000 0101 0001

FIG. 29

CONTRACT SIGNER ID : 000125

[illegible]

CONTRACT SIGNER ID : 000125

[illegible]

FIG. 31

CONTRACT SIGNER ID : 000125

| SPARE ARTICLE DATA | | | | | | | | | | | | | | | | |
|--------------------|------------------------|------------------------|--------------------------|--------------------------|----------------|--------------|-------------------|------------------------------|------------------|---------------|------------------------------------|------------------------------------|--------------------|-------------|--|--|
| No. | DATE OF DELIVERY
Td | DATE OF PURCHASE
Tp | DATE OF COLLECTION
Tc | FULL DATA (FULL DIGITS) | TOP LEVEL | | SECOND LEVEL | | THIRD LEVEL | | | THE NUMBER OF TIMES COLLECTED
N | STATUS ON PURCHASE | | | |
| | | | | | TOP LEVEL CODE | TOP LEVEL | SECOND LEVEL CODE | SECOND LEVEL | THIRD LEVEL CODE | TITLE | REMARKS 1 | | | REMARKS 2 | | |
| | | | | | | | | | | | | | | | | |
| 1 | 3/1/2000 | 3/10/2000 | — | 0010 0000 0000 0101 0000 | 00 | CD-ROM | 10 | APPLI-
CATION
SOFTWARE | 0000 | "DATA SEARCH" | DATA SEARCH, EXPLOITATION SOFTWARE | FOR PC USE | 1 | PURCHASED | | |
| 2 | 3/1/2000 | 3/8/2000 | — | 1101 0000 0000 0101 0001 | 11 | EMPTY MEDIUM | 01 | D V | N/A | — | GENERAL USE (FIVE IN ONE PACK) | FOR "DIGITAL VIEW" | 2 | PURCHASED | | |
| 3 | 4/1/2000 | — | — | 1110 0000 0000 0000 0101 | 11 | EMPTY MEDIUM | 10 | MD | N/A | — | GENERAL USE (FIVE IN ONE PACK) | | 2 | NEW (SPARE) | | |
| 4 | 4/1/2000 | — | — | 0010 0011 0000 0000 1101 | 00 | CD-ROM | 10 | APPLI-
CATION
SOFTWARE | 0011 | "EMAIL" | INTERNET EMAIL SOFTWARE | FOR PC USE | 3 | NEW (SPARE) | | |
| 5 | 4/1/2000 | — | — | 0100 0000 0000 0000 1000 | 01 | DVD | 00 | MOVIE | 0000 | "XXX" | WITH SUBTITLE | | 1 | NEW (SPARE) | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

FIG.32

ACCOUNTING LIST[4] (PERIOD: FEBRUARY 16, 2000 - MARCH 15, 2000)

CONTRACT SIGNER ID:000125
CONTRACT MODEL:GENERAL MACHINE

| No. | PRODUCT | ACCOUNT FACTOR | DATE OF INSTALLATION | QUANTITY | UNIT PRICE | SUBTOTAL |
|-------|--------------------------------------|----------------|----------------------|----------|------------|----------|
| 1 | APPLICATION SOFTWARE
"Datahunter" | k1 | 3/10/2000 | 1 | p1' | p1'*k1 |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| TOTAL | | | | | | △△△△. △ |

ACCOUNTING LIST[5] (PERIOD: MARCH 16, 2000 -APRIL 15, 2000)

CONTRACT SIGNER ID:000125
CONTRACT MODEL:

| No. | PRODUCT | ACCOUNT FACTOR | DATE OF INSTALLATION | QUANTITY | UNIT PRICE | SUBTOTAL |
|-------|-------------|----------------|----------------------|----------|------------|----------|
| 1 | DV CASSETTE | k2 | 3/18/2000 | 1 | p4' | p4' * k2 |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| TOTAL | | | | | | |

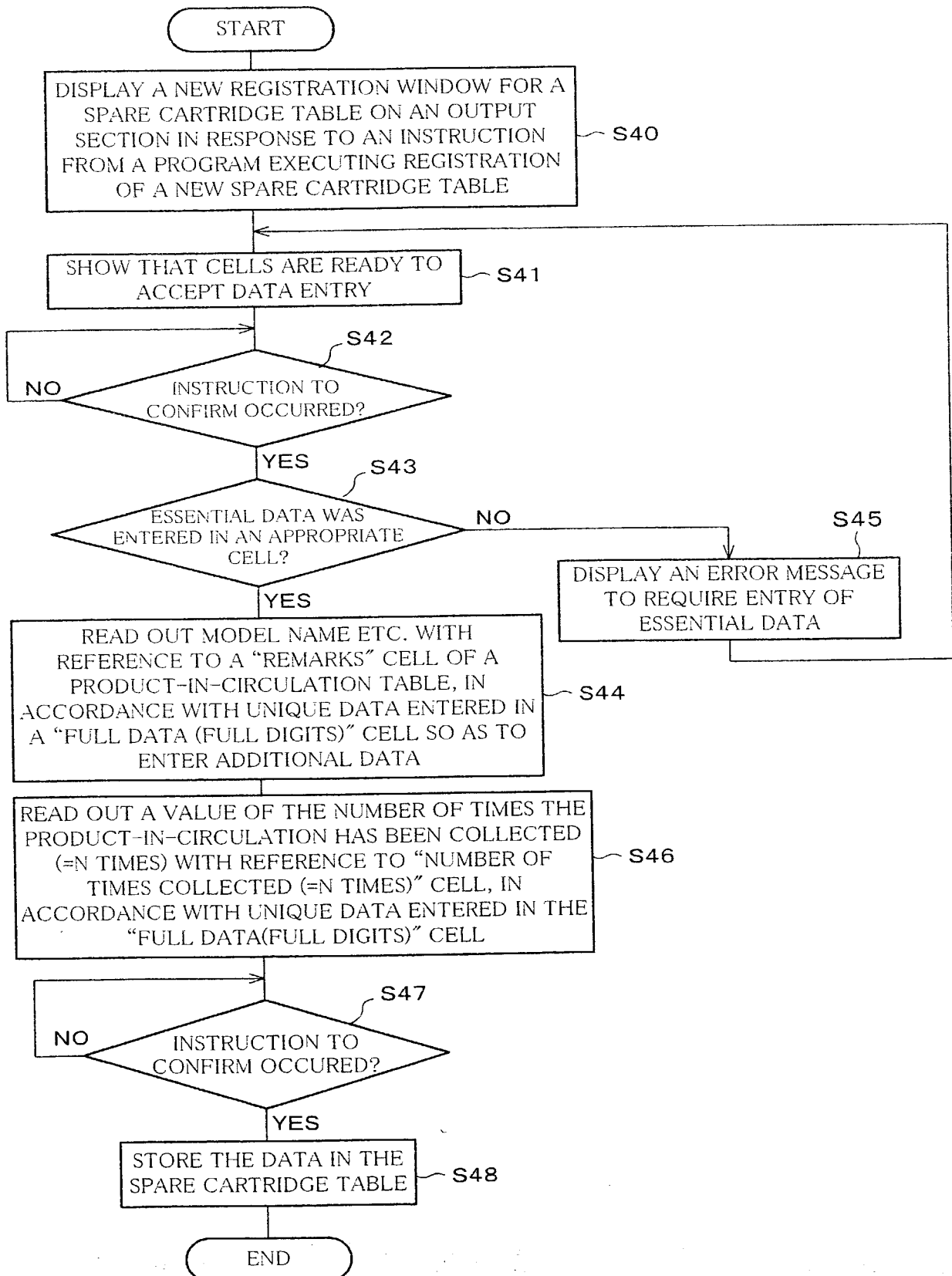
[illegible]

FIG. 34

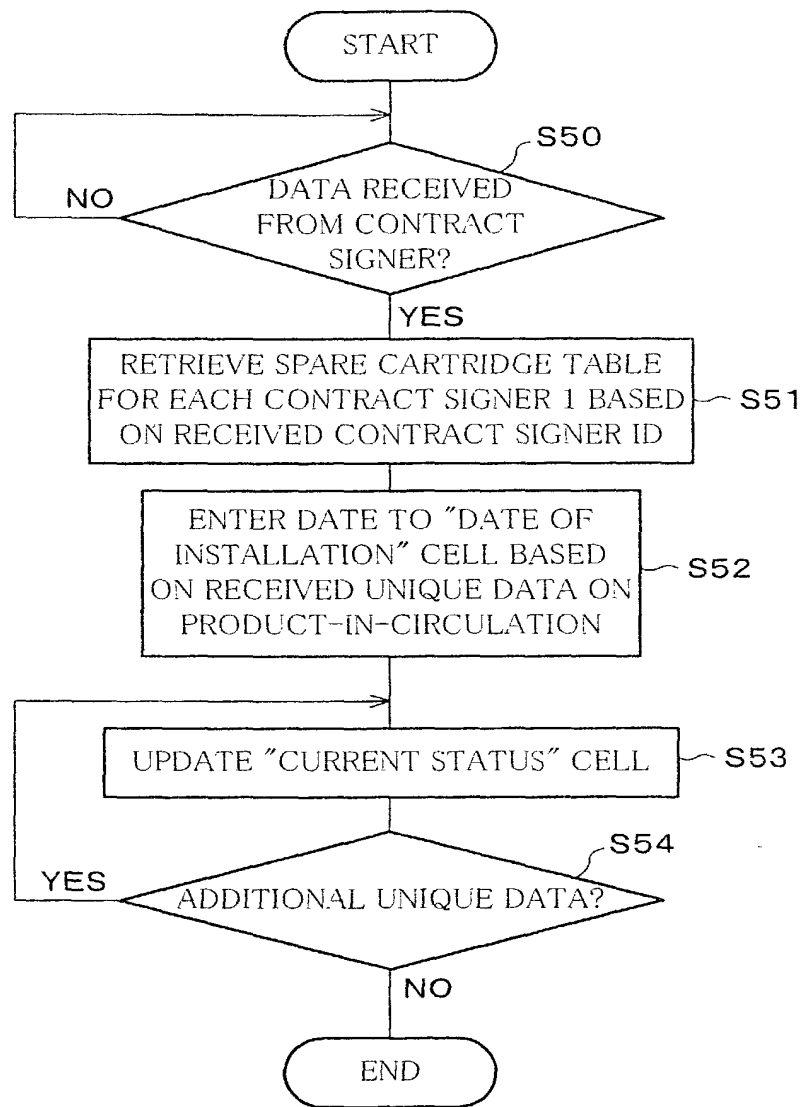


FIG. 35

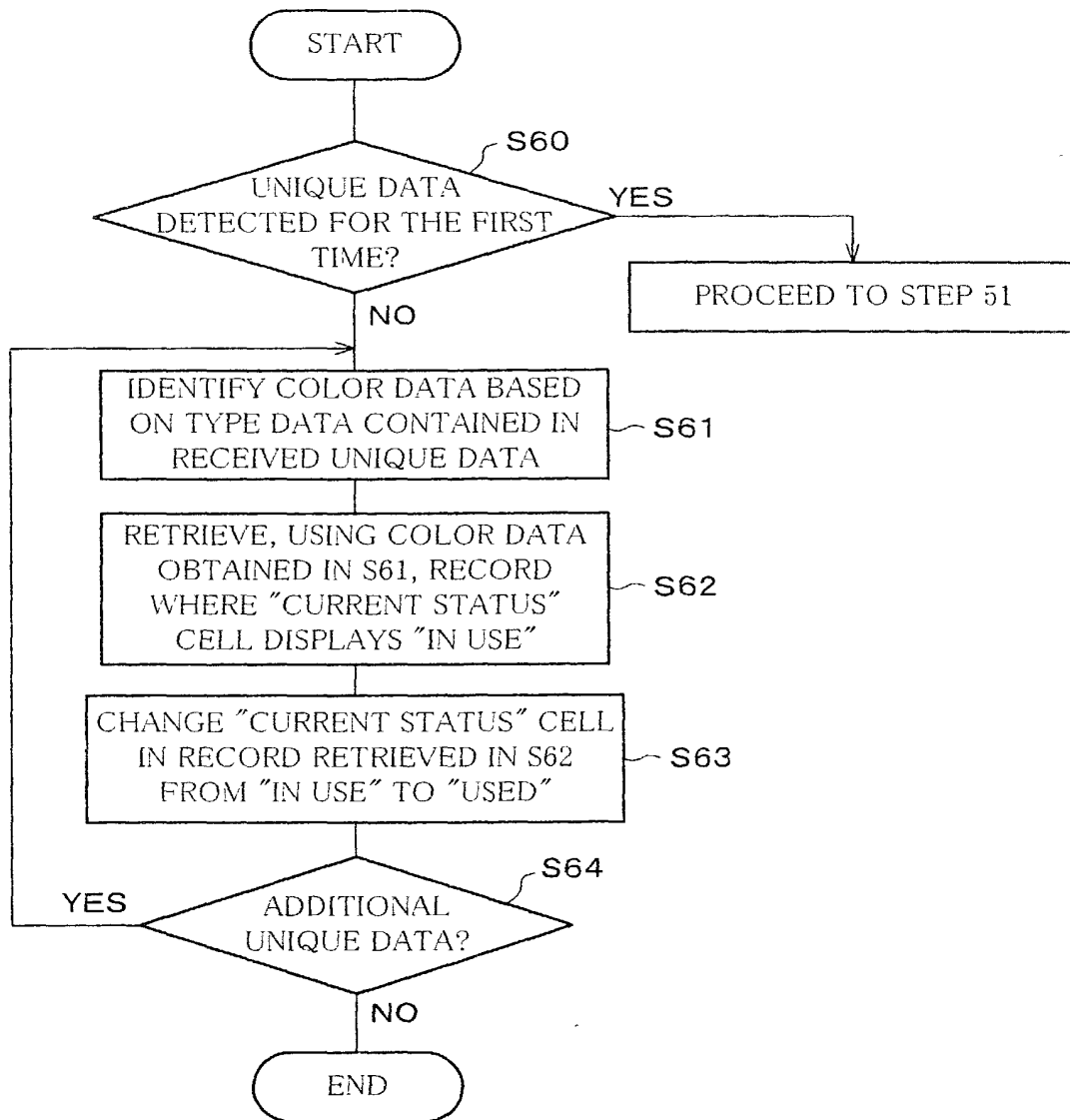


FIG. 36

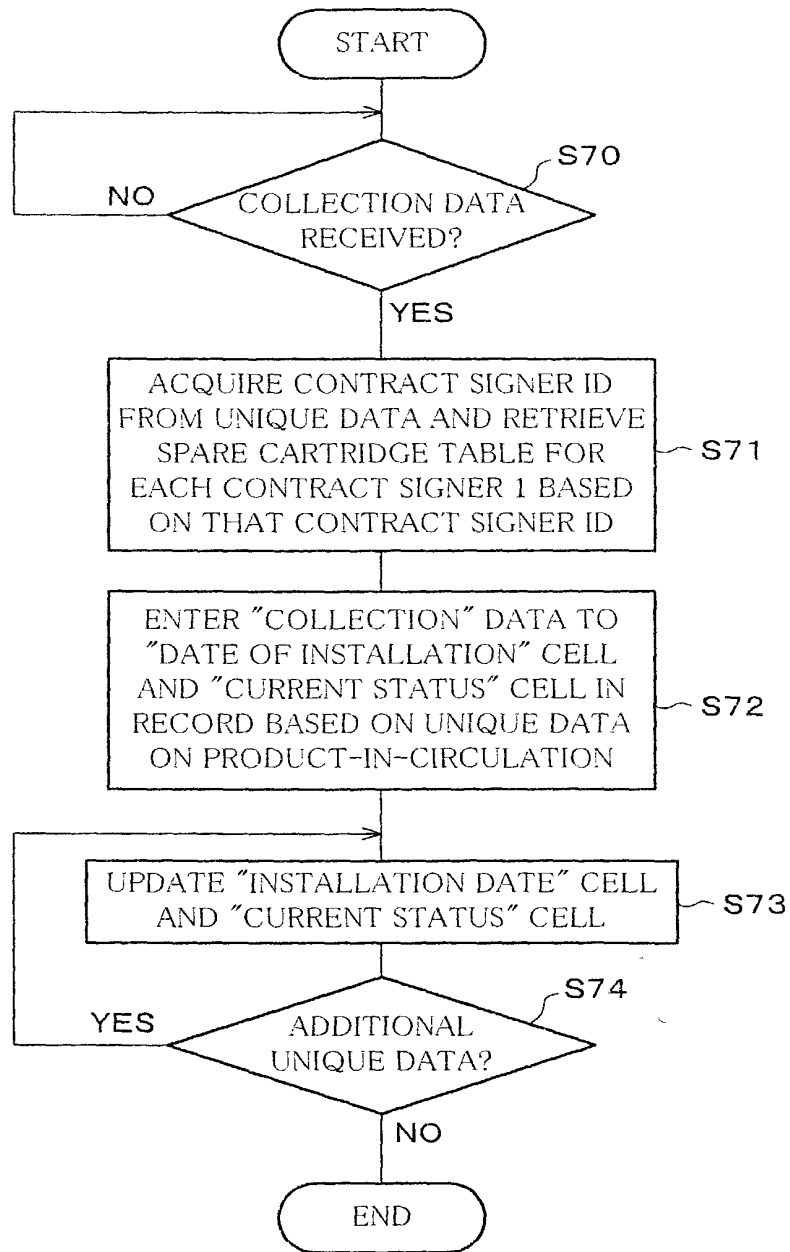
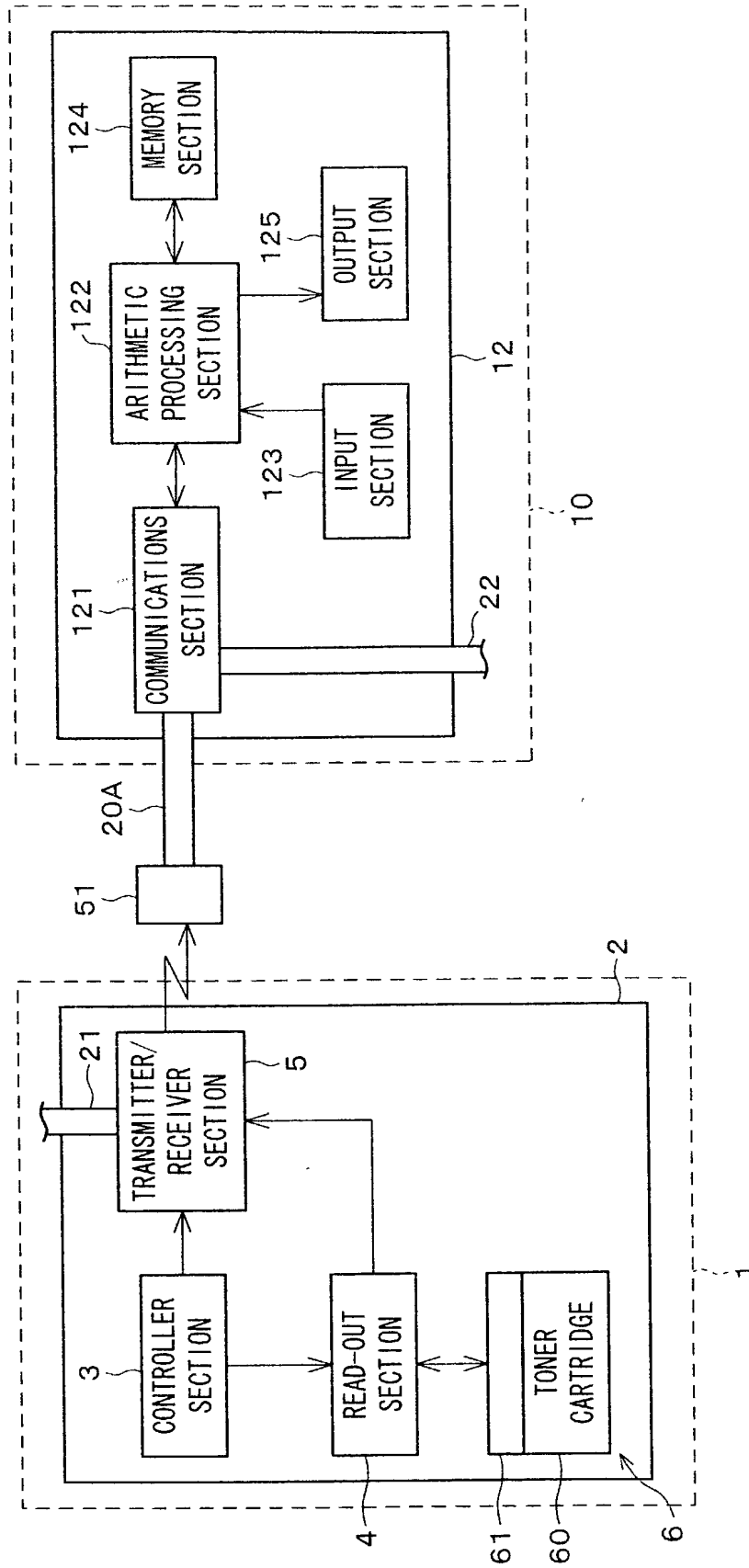


FIG. 37



REMOVAL
INSTALLATION

FIG. 38 (a)

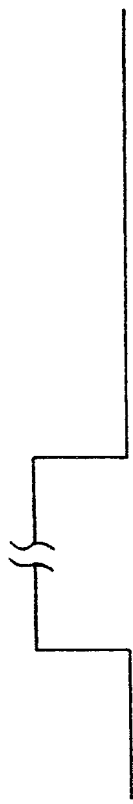


FIG. 38 (b)

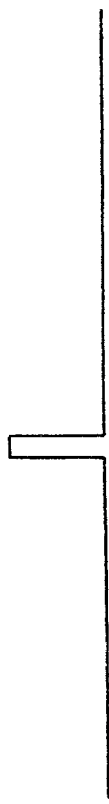


FIG. 38 (c)



FIG. 38 (d)



FIG. 38 (e)



FIG. 38 (f)

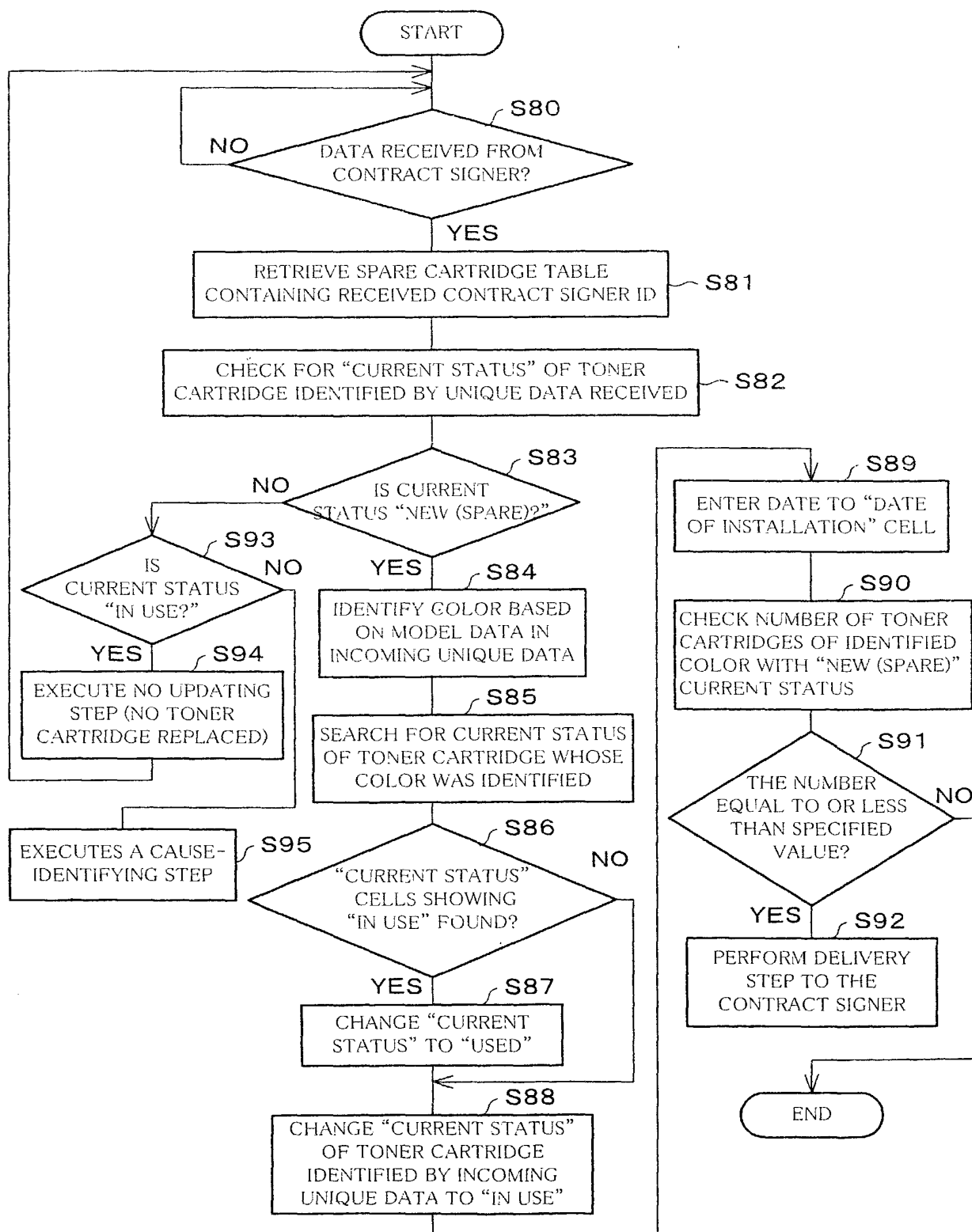


FIG. 40

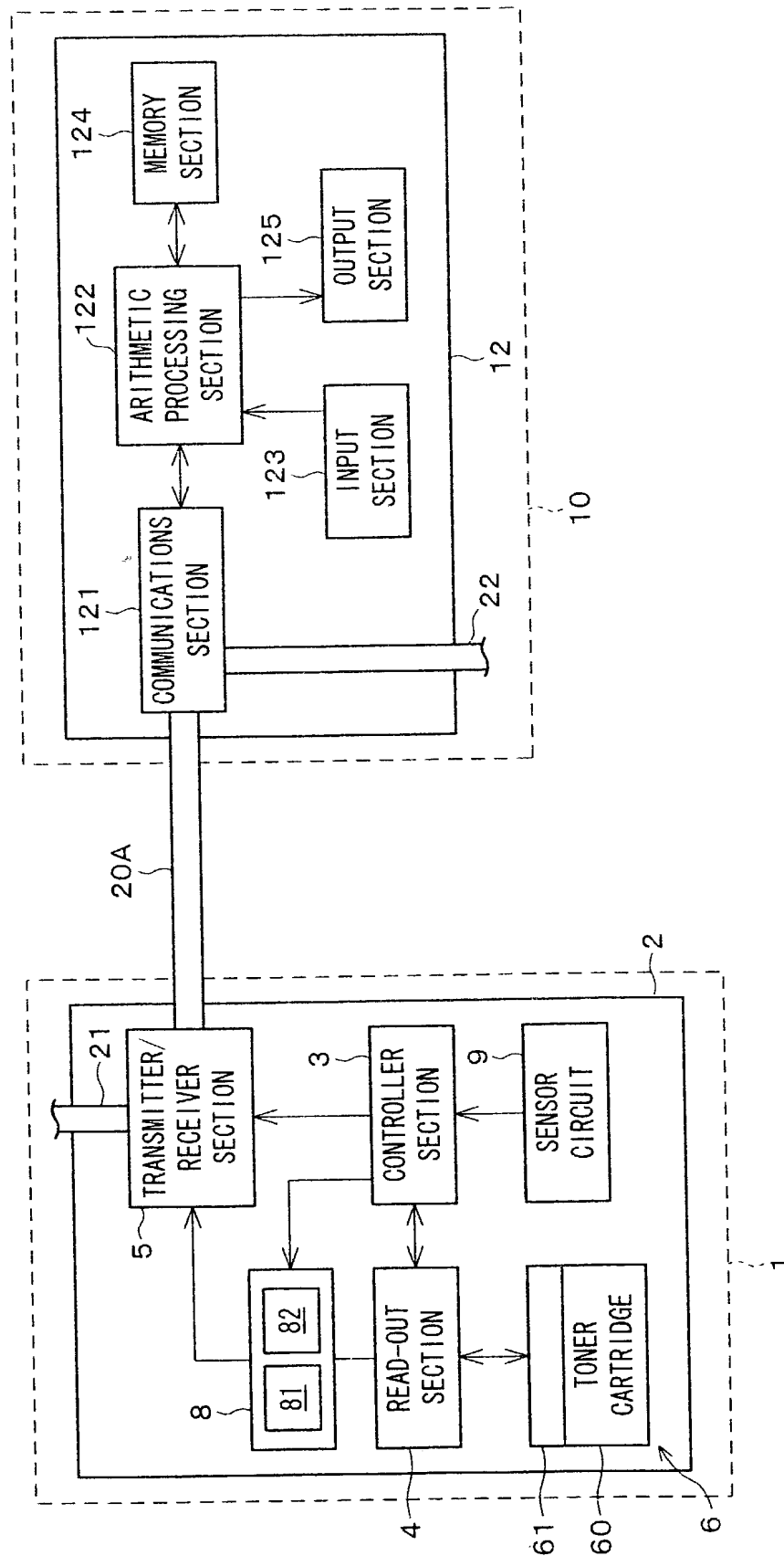


FIG. 41 (a)

ADVANCE REQUEST PAGE

ENTER YOUR CONTRACT SIGNER ID

SELECT ONE OR MORE PRODUCT GROUPS THAT YOU WISH TO BE DELIVERED IN ADVANCE.

☒ • OFFICE SUPPLIES

☒ • ENTERTAINMENT PRODUCTS

☐ • EVERYDAY COMMODITIES

.

FIG. 41 (b)

ADVANCE REQUEST PAGE

SELECT ONE OR MORE PRODUCTS THAT YOU WISH TO BE DELIVERED IN ADVANCE.

☒ • SOFTWARE FOR PC

☒ • WESTERN MOVIES (ON DVD)

☐ • JAPANESE MOVIES (ON DVD)

.

FIG. 41 (c)

.

```

<FORM ACTION="..."
  <INPUT TYPE="checkbox" NAME="0210">•SOFTWARE FOR PC<BR>
  <INPUT TYPE="checkbox" NAME="0220">•WESTERN MOVIES (ON DVD)<BR>
  <INPUT TYPE="checkbox" NAME="0230">•JAPANESE MOVIES (ON DVD)<BR>
  ...
</FORM>

```

.

FIG. 41 (d)

| DATA | NUMBER OF REPLIES |
|------|-------------------|
| 0210 | 84 |
| 0220 | 173 |
| 0230 | 50 |
| ... | |

FIG. 41 (e)

| DATA | ARTICLE NAME |
|------|--------------------------|
| 0210 | SOFTWARE FOR PC |
| 0220 | WESTERN MOVIES (ON DVD) |
| 0230 | JAPANESE MOVIES (ON DVD) |
| ... | |

— 11 —

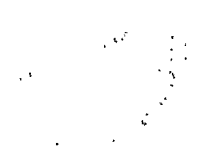


FIG. 42 (b)

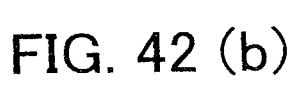


FIG. 42 (c)

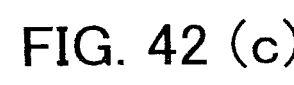


FIG. 43 (a)

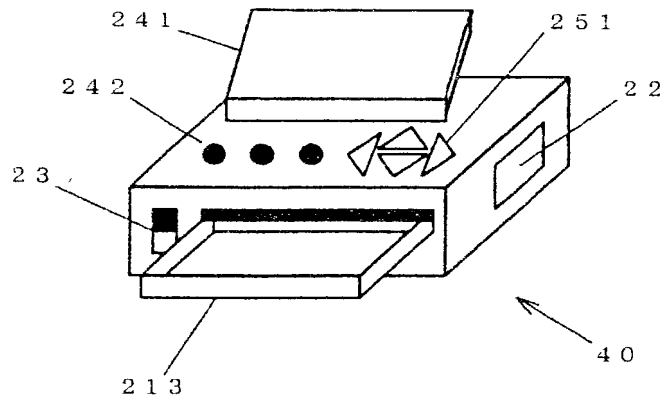


FIG. 43 (b)

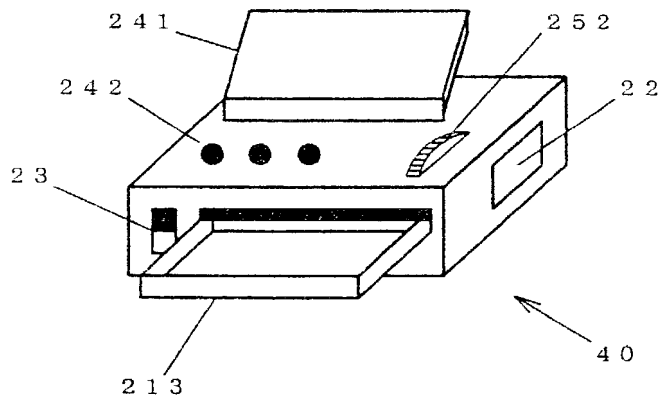
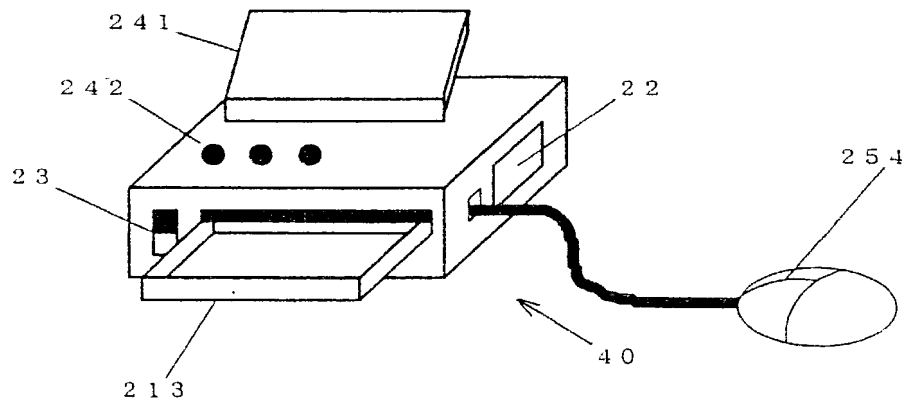
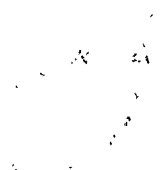


FIG. 43 (c)



$$(\pi_1, \pi_2, \pi_3, \pi_4, \pi_5, \pi_6, \pi_7, \pi_8, \pi_9, \pi_{10}, \pi_{11}, \pi_{12}, \pi_{13}, \pi_{14}, \pi_{15}, \pi_{16}, \pi_{17}, \pi_{18}, \pi_{19}, \pi_{20}, \pi_{21}, \pi_{22}, \pi_{23}, \pi_{24}, \pi_{25}, \pi_{26}, \pi_{27}, \pi_{28}, \pi_{29}, \pi_{30}, \pi_{31}, \pi_{32}, \pi_{33}, \pi_{34}, \pi_{35}, \pi_{36}, \pi_{37}, \pi_{38}, \pi_{39}, \pi_{40}, \pi_{41}, \pi_{42}, \pi_{43}, \pi_{44}, \pi_{45}, \pi_{46}, \pi_{47}, \pi_{48}, \pi_{49}, \pi_{50}, \pi_{51}, \pi_{52}, \pi_{53}, \pi_{54}, \pi_{55}, \pi_{56}, \pi_{57}, \pi_{58}, \pi_{59}, \pi_{60}, \pi_{61}, \pi_{62}, \pi_{63}, \pi_{64}, \pi_{65}, \pi_{66}, \pi_{67}, \pi_{68}, \pi_{69}, \pi_{70}, \pi_{71}, \pi_{72}, \pi_{73}, \pi_{74}, \pi_{75}, \pi_{76}, \pi_{77}, \pi_{78}, \pi_{79}, \pi_{80}, \pi_{81}, \pi_{82}, \pi_{83}, \pi_{84}, \pi_{85}, \pi_{86}, \pi_{87}, \pi_{88}, \pi_{89}, \pi_{90}, \pi_{91}, \pi_{92}, \pi_{93}, \pi_{94}, \pi_{95}, \pi_{96}, \pi_{97}, \pi_{98}, \pi_{99}, \pi_{100})$$


1

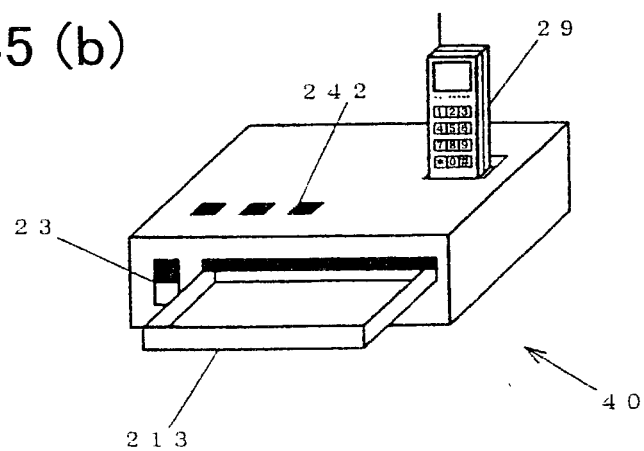


FIG.46(a)

PRODUCT-IN-CIRCULATION TABLE [1]

CURRENT DATA AND TIME Tp: 10/28/2000

| UNIQUE DATA | REMARKS ON PRODUCT-IN-CIRCULATION TABLE | "USE-BY" DATE
T | ACCOUNTING |
|--------------------------|---|--------------------|------------|
| 0000 0000 0000 0101 0000 | BLACK TONER CARTRIDGE
FOR AR-2000 | 5/14/2000 | CHARGED |
| 0000 0000 0000 0101 0001 | | 5/14/2000 | UNCHARGED |
| 0000 0000 0000 0101 0010 | | 5/14/2000 | UNCHARGED |
| ... | | ... | ... |
| 0100 0000 0000 0000 0100 | YELLOW TONER CARTRIDGE
FOR AR-2000 | 11/1/2001 | CHARGED |
| 0100 0000 0000 0000 0101 | | 11/1/2001 | UNCHARGED |
| ... | | ... | ... |
| 0100 0000 0000 0000 1100 | MAGENTA TONER CARTRIDGE
FOR AR-2000 | 11/1/2001 | CHARGED |
| 0100 0000 0000 0000 1101 | | 11/1/2001 | UNCHARGED |
| ... | | ... | ... |
| 1100 0000 0000 0000 0111 | CYAN TONER CARTRIDGE
FOR AR-2000 | 11/1/2001 | CHARGED |
| 1100 0000 0000 0000 1000 | | 11/1/2001 | UNCHARGED |
| ... | ... | ... | ... |

FIG.46(b)

PRODUCT-IN-CIRCULATION TABLE [2]

CURRENT DATA AND TIME Tp: 10/28/2000

| UNIQUE DATA | REMARKS | "USE-BY" DATE
T | ACCOUNTING |
|--------------------------|---|--------------------|------------|
| ... | ... | ... | ... |
| 0010 0000 0000 0000 0000 | APPLICATION SOFTWARE
"DATA SEARCH" Ver. 1.0 | 12/31/2000 | CHARGED |
| 0010 0000 0000 0000 0001 | | | UNCHARGED |
| 0010 0000 0000 0000 0010 | | | UNCHARGED |
| ... | | | ... |
| 0010 0000 0000 1000 0000 | APPLICATION SOFTWARE
"DATA SEARCH" Ver. 2.0 | 5/31/2001 | CHARGED |
| 0010 0000 0000 1000 0001 | | | CHARGED |
| 0010 0000 0000 1000 0010 | | | UNCHARGED |
| ... | | | ... |
| ... | ... | ... | ... |
| 0010 0001 0000 0000 0000 | APPLICATION SOFTWARE
"TRANSLATION ASSISTANT" | 7/1/2001 | CHARGED |
| 0010 0001 0000 0000 0001 | | | CHARGED |
| 0010 0001 0000 0000 0010 | | | UNCHARGED |
| ... | | | ... |

FIG. 47 (a) INSTALLED CARTRIDGE DATA

| MACHINE MODEL | | AR-2000 | | LIBRE | | | | |
|---------------------|---------------------|--------------------------|-------------------------------|------------|-------------|------------------|---------------------------------|-----------------------------------|
| CONTRACT SIGNER ID | | 000125 | | | | | | |
| CARTRIDGE TYPE | DATE OF REPLACEMENT | INSTALLED CARTRIDGE DATA | | | | DATE OF EXPIRY T | TIME REMAINING BEFORE EXPIRY Tr | CORRESPONDING SPARE CARTRIDGE No. |
| | | FULL DATA (FULL DIGITS) | COLOR DATA (FIRST TWO DIGITS) | MODEL DATA | UNIQUE DATA | | | |
| BLACK | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| YELLOW | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MAGENTA | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CYAN | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | | | | | | | | |
| PHOTOSENSITIVE BODY | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

FIG. 47 (b) SPARE CARTRIDGE DATA

MACHINE MODEL

AR-2000

LIBRE

DATE

03/21/2000/15:58

CONTRACT SIGNER ID

000125

| No. | DATE OF DELIVERY | DATE OF INSTALLATION | SPARE CARTRIDGE DATA | | | | CURRENT STATUS | DATE OF EXPIRY T | TIME REMAINING BEFORE EXPIRY T |
|-----|------------------|----------------------|-------------------------|-------------------------------|------------|-------------|----------------|------------------|--------------------------------|
| | | | FULL DATA (FULL DIGITS) | COLOR DATA (FIRST TWO DIGITS) | MODEL DATA | UNIQUE DATA | | | |
| 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

DATE 03/21/2000/15:58

14 00000000 00000000

FIG. 48 (a) INSTALLED CARTRIDGE DATA

| MACHINE MODEL | | AR-2000 | | LIBRE | | CONTRACT SIGNER ID | | 000125 | |
|---------------------|---------------------|--------------------------|-------------------------------|------------|-------------|--------------------|---------------------------------|-----------------------------------|--|
| CARTRIDGE TYPE | DATE OF REPLACEMENT | INSTALLED CARTRIDGE DATA | | | | DATE OF EXPIRY T | TIME REMAINING BEFORE EXPIRY Tr | CORRESPONDING SPARE CARTRIDGE No. | |
| | | FULL DATA (FULL DIGITS) | COLOR DATA (FIRST TWO DIGITS) | MODEL DATA | UNIQUE DATA | | | | |
| BLACK | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| YELLOW | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| MAGENTA | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| CYAN | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| PHOTOSENSITIVE BODY | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |

FIG. 48 (b) SPARE CARTRIDGE DATA

| MACHINE MODEL | | AR-2000 | | LIBRE | | DATE | | | |
|--------------------|------------------|----------------------|--------------------------|-------------------------------|------------|---------------------|----------------|------------------|--------------------------------|
| CONTRACT SIGNER ID | | | | 000125 | | | | | |
| No. | DATE OF DELIVERY | DATE OF INSTALLATION | SPARE CARTRIDGE DATA | | | | CURRENT STATUS | DATE OF EXPIRY T | TIME REMAINING BEFORE EXPIRY T |
| | | | FULL DATA (FULL DIGITS) | COLOR DATA (FIRST TWO DIGITS) | MODEL DATA | UNIQUE DATA | | | |
| 1 | 3/22/2000 | -- | 0000 0000 0000 0101 0000 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0000 | NEW (SPARE) | 5/14/2000 | Tr 3 |
| 2 | 3/22/2000 | -- | 0100 0000 0000 0000 0100 | YELLOW TONER(01) | AR-2000 | 0000 0000 0000 0100 | NEW (SPARE) | 11/1/2001 | Tr 1 |
| 3 | 3/22/2000 | -- | 1000 0000 0000 0000 1100 | MAGENTA TONER(10) | AR-2000 | 0000 0000 0000 1100 | NEW (SPARE) | 11/1/2001 | Tr 1 |
| 4 | 3/22/2000 | -- | 1100 0000 0000 0000 0111 | CYAN TONER(11) | AR-2000 | 0000 0000 0000 0111 | NEW (SPARE) | 11/1/2001 | Tr 1 |
| 5 | 3/22/2000 | -- | 0000 0000 0000 0101 0001 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0001 | NEW (SPARE) | 12/14/2000 | Tr 1 |
| 6 | 3/22/2000 | -- | 0100 0000 0000 0000 0101 | YELLOW TONER(01) | AR-2000 | 0000 0000 0000 0101 | NEW (SPARE) | 11/1/2001 | Tr 1 |
| 7 | 3/22/2000 | -- | 1000 0000 0000 0000 1101 | MAGENTA TONER(10) | AR-2000 | 0000 0000 0000 1101 | NEW (SPARE) | 11/1/2001 | Tr 1 |
| 8 | 3/22/2000 | -- | 1100 0000 0000 0000 1000 | CYAN TONER(11) | AR-2000 | 0000 0000 0000 1000 | NEW (SPARE) | 11/1/2001 | Tr 1 |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

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FIG. 49 (a) INSTALLED CARTRIDGE DATA

| MACHINE MODEL | | AR-2000 | | LIBRE | | | | |
|---------------------|---------------------|--------------------------|-------------------------------|------------|---------------------|------------------|---------------------------------|-----------------------------------|
| CONTRACT SIGNER ID | | 000125 | | | | | | |
| CARTRIDGE TYPE | DATE OF REPLACEMENT | INSTALLED CARTRIDGE DATA | | | | DATE OF EXPIRY T | TIME REMAINING BEFORE EXPIRY Tr | CORRESPONDING SPARE CARTRIDGE No. |
| | | FULL DATA (FULL DIGITS) | COLOR DATA (FIRST TWO DIGITS) | MODEL DATA | UNIQUE DATA | | | |
| BLACK | 3/22/2000 | 0000 0000 0000 0101 0000 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0000 | 5/14/2000 | Tr 3 | 1 (No. 1) |
| YELLOW | 3/22/2000 | 0100 0000 0000 0000 0100 | YELLOW TONER(01) | AR-2000 | 0000 0000 0000 0100 | 11/1/2001 | Tr 1 | 1 (No. 2) |
| MAGENTA | 3/22/2000 | 1000 0000 0000 0000 1100 | MAGENTA TONER(10) | AR-2000 | 0000 0000 0000 1100 | 11/1/2001 | Tr 1 | 1 (No. 3) |
| CYAN | 3/22/2000 | 1100 0000 0000 0000 0111 | CYAN TONER(11) | AR-2000 | 0000 0000 0000 0111 | 11/1/2001 | Tr 1 | 1 (No. 4) |
| PHOTOSENSITIVE BODY | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

FIG. 49 (b) SPARE CARTRIDGE DATA

MACHINE MODEL

AR-2000

LIBRE

03/22/2000/15:58

DATE

CONTRACT SIGNER ID

000125

| No. | DATE OF DELIVERY | DATE OF INSTALLATION | SPARE CARTRIDGE DATA | | | | CURRENT STATUS | DATE OF EXPIRY T | TIME REMAINING BEFORE EXPIRY T ₁ |
|-----|------------------|----------------------|--------------------------|-------------------------------|------------|---------------------|----------------|------------------|---|
| | | | FULL DATA (FULL DIGITS) | COLOR DATA (FIRST TWO DIGITS) | MODEL DATA | UNIQUE DATA | | | |
| 1 | 3/22/2000 | 3/22/2000 | 0000 0000 0000 0101 0000 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0000 | IN USE | 5/14/2000 | T r 3 |
| 2 | 3/22/2000 | 3/22/2000 | 0100 0000 0000 0000 0100 | YELLOW TONER(01) | AR-2000 | 0000 0000 0000 0100 | IN USE | 11/1/2001 | T r 1 |
| 3 | 3/22/2000 | 3/22/2000 | 1000 0000 0000 0000 1100 | MAGENTA TONER(10) | AR-2000 | 0000 0000 0000 1100 | IN USE | 11/1/2001 | T r 1 |
| 4 | 3/22/2000 | 3/22/2000 | 1100 0000 0000 0000 0111 | CYAN TONER(11) | AR-2000 | 0000 0000 0000 0111 | IN USE | 11/1/2001 | T r 1 |
| 5 | 3/22/2000 | — | 0000 0000 0000 0101 0001 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0001 | NEW (SPARE) | 12/14/2000 | T r 1 |
| 6 | 3/22/2000 | — | 0100 0000 0000 0000 0101 | YELLOW TONER(01) | AR-2000 | 0000 0000 0000 0101 | NEW (SPARE) | 11/1/2001 | T r 1 |
| 7 | 3/22/2000 | — | 1000 0000 0000 0000 1101 | MAGENTA TONER(10) | AR-2000 | 0000 0000 0000 1101 | NEW (SPARE) | 11/1/2001 | T r 1 |
| 8 | 3/22/2000 | — | 1100 0000 0000 0000 1000 | CYAN TONER(11) | AR-2000 | 0000 0000 0000 1000 | NEW (SPARE) | 11/1/2001 | T r 1 |
| 9 | . | | | | | | | | |
| 10 | . | | | | | | | | |
| | | | | | | | | | |

DATE 03/22/2000/15:58

FIG. 50 (a) INSTALLED CARTRIDGE DATA

| MACHINE MODEL | | AR-2000 LIBRE | | CONTRACT SIGNER ID | | 000125 | | |
|---------------------|---------------------|--------------------------|-------------------------------|--------------------|---------------------|------------------|---------------------------------|-----------------------------------|
| CARTRIDGE TYPE | DATE OF REPLACEMENT | INSTALLED CARTRIDGE DATA | | | | DATE OF EXPIRY T | TIME REMAINING BEFORE EXPIRY Tr | CORRESPONDING SPARE CARTRIDGE No. |
| | | FULL DATA (FULL DIGITS) | COLOR DATA (FIRST TWO DIGITS) | MODEL DATA | UNIQUE DATA | | | |
| BLACK | 6/12/2000 | 0000 0000 0000 0101 0001 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0001 | 12/14/2000 | Tr 1 | 0 (No. 5) |
| YELLOW | 3/22/2000 | 0100 0000 0000 0000 0100 | YELLOW TONER(01) | AR-2000 | 0000 0000 0000 0100 | 11/1/2001 | Tr 1 | 1 (No. 2) |
| MAGENTA | 3/22/2000 | 1000 0000 0000 0000 1100 | MAGENTA TONER(10) | AR-2000 | 0000 0000 0000 1100 | 11/1/2001 | Tr 1 | 1 (No. 3) |
| CYAN | 3/22/2000 | 1100 0000 0000 0000 0111 | CYAN TONER(11) | AR-2000 | 0000 0000 0000 0111 | 11/1/2001 | Tr 1 | 1 (No. 4) |
| PHOTOSENSITIVE BODY | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

FIG. 50 (b) SPARE CARTRIDGE DATA

| MACHINE MODEL | | AR-2000 LIBRE | | DATE | | 03/22/2000/15.58 | | | |
|--------------------|------------------|----------------------|--------------------------|-------------------------------|------------|---------------------|----------------|------------------|---------------------------------|
| CONTRACT SIGNER ID | | 000125 | | | | | | | |
| No. | DATE OF DELIVERY | DATE OF INSTALLATION | SPARE CARTRIDGE DATA | | | | CURRENT STATUS | DATE OF EXPIRY T | TIME REMAINING BEFORE EXPIRY Tr |
| | | | FULL DATA (FULL DIGITS) | COLOR DATA (FIRST TWO DIGITS) | MODEL DATA | UNIQUE DATA | | | |
| 1 | 3/22/2000 | 3/22/2000 | 0000 0000 0000 0101 0000 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0000 | USED | 5/14/2000 | Tr 3 |
| 2 | 3/22/2000 | 3/22/2000 | 0100 0000 0000 0000 0100 | YELLOW TONER(01) | AR-2000 | 0000 0000 0000 0100 | IN USE | 11/1/2001 | Tr 1 |
| 3 | 3/22/2000 | 3/22/2000 | 1000 0000 0000 0000 1100 | MAGENTA TONER(10) | AR-2000 | 0000 0000 0000 1100 | IN USE | 11/1/2001 | Tr 1 |
| 4 | 3/22/2000 | 3/22/2000 | 1100 0000 0000 0000 0111 | CYAN TONER(11) | AR-2000 | 0000 0000 0000 0111 | IN USE | 11/1/2001 | Tr 1 |
| 5 | 3/22/2000 | 6/12/2000 | 0000 0000 0000 0101 0001 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0001 | IN USE | 12/14/2000 | Tr 1 |
| 6 | 3/22/2000 | - | 0100 0000 0000 0000 0101 | YELLOW TONER(01) | AR-2000 | 0000 0000 0000 0101 | NEW (SPARE) | 11/1/2001 | Tr 1 |
| 7 | 3/22/2000 | - | 1000 0000 0000 0000 1101 | MAGENTA TONER(10) | AR-2000 | 0000 0000 0000 1101 | NEW (SPARE) | 11/1/2001 | Tr 1 |
| 8 | 3/22/2000 | - | 1100 0000 0000 0000 1000 | CYAN TONER(11) | AR-2000 | 0000 0000 0000 1000 | NEW (SPARE) | 11/1/2001 | Tr 1 |
| 9 | . | | | | | | | | |
| 10 | . | | | | | | | | |

DATE 03/22/2000/15.58

FIG. 51 (a) INSTALLED CARTRIDGE DATA

| MACHINE MODEL | | AR-2000 | | LIBRE | | CONTRACT SIGNER ID | | 000125 | |
|---------------------|---------------------|--------------------------|-------------------------------|------------|---------------------|--------------------|---------------------------------|-----------------------------------|--|
| CARTRIDGE TYPE | DATE OF REPLACEMENT | INSTALLED CARTRIDGE DATA | | | | DATE OF EXPIRY T | TIME REMAINING BEFORE EXPIRY Tr | CORRESPONDING SPARE CARTRIDGE No. | |
| | | FULL DATA (FULL DIGITS) | COLOR DATA (FIRST TWO DIGITS) | MODEL DATA | UNIQUE DATA | | | | |
| BLACK | 6/12/2000 | 0000 0000 0000 0101 0001 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0001 | 12/14/2000 | Tr 1 | 1 (No. 5) | |
| YELLOW | 3/22/2000 | 0100 0000 0000 0000 0100 | YELLOW TONER(01) | AR-2000 | 0000 0000 0000 0100 | 11/1/2001 | Tr 1 | 1 (No. 2) | |
| MAGENTA | 3/22/2000 | 1000 0000 0000 0000 1100 | MAGENTA TONER(10) | AR-2000 | 0000 0000 0000 1100 | 11/1/2001 | Tr 1 | 1 (No. 3) | |
| CYAN | 3/22/2000 | 1100 0000 0000 0000 0111 | CYAN TONER(11) | AR-2000 | 0000 0000 0000 0111 | 11/1/2001 | Tr 1 | 1 (No. 4) | |
| PHOTOSENSITIVE BODY | N/A | N/A | N/A | N/A | N/A | N/A | | N/A | |

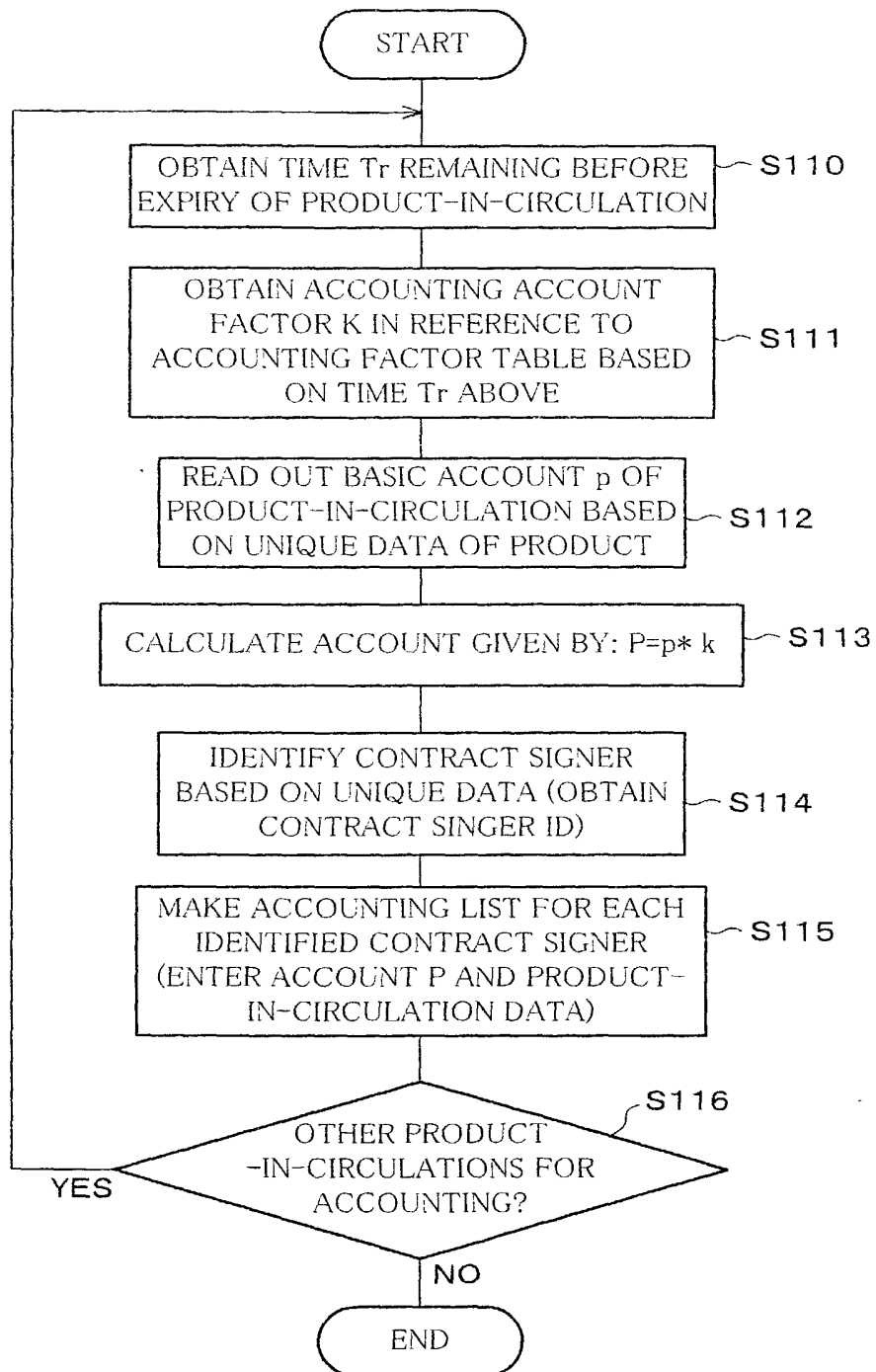
FIG. 51 (b) SPARE CARTRIDGE DATA

03/22/2000/15:58

DATE

| MACHINE MODEL AR-2000 LIBRE | | CONTRACT SIGNER ID 000125 | | | | | | | |
|-----------------------------|------------------|---------------------------|--------------------------|-------------------------------|------------|---------------------|----------------|-------------------|---------------------------------|
| No. | DATE OF DELIVERY | DATE OF INSTALLATION | SPARE CARTRIDGE DATA | | | | CURRENT STATUS | DATE OF EXPIRY Tr | TIME REMAINING BEFORE EXPIRY Tr |
| | | | FULL DATA (FULL DIGITS) | COLOR DATA (FIRST TWO DIGITS) | MODEL DATA | UNIQUE DATA | | | |
| 1 | 3/22/2000 | 3/22/2000 | 0000 0000 0000 0101 0000 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0000 | USED | 5/14/2000 | Tr 3 |
| 2 | 3/22/2000 | 3/22/2000 | 0100 0000 0000 0000 0100 | YELLOW TONER(01) | AR-2000 | 0000 0000 0000 0100 | IN USE | 11/1/2001 | Tr 1 |
| 3 | 3/22/2000 | 3/22/2000 | 1000 0000 0000 0000 1100 | MAGENTA TONER(10) | AR-2000 | 0000 0000 0000 1100 | IN USE | 11/1/2001 | Tr 1 |
| 4 | 3/22/2000 | 3/22/2000 | 1100 0000 0000 0000 0111 | CYAN TONER(11) | AR-2000 | 0000 0000 0000 0111 | IN USE | 11/1/2001 | Tr 1 |
| 5 | 3/22/2000 | 6/12/2000 | 0000 0000 0000 0101 0001 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0001 | IN USE | 12/14/2000 | Tr 1 |
| 6 | 3/22/2000 | COLLECTED | 0100 0000 0000 0000 0101 | YELLOW TONER(01) | AR-2000 | 0000 0000 0000 0101 | COLLECTED | — | — |
| 7 | 3/22/2000 | COLLECTED | 1000 0000 0000 0000 1101 | MAGENTA TONER(10) | AR-2000 | 0000 0000 0000 1101 | COLLECTED | — | — |
| 8 | 3/22/2000 | COLLECTED | 1100 0000 0000 0000 1000 | CYAN TONER(11) | AR-2000 | 0000 0000 0000 1000 | COLLECTED | — | — |
| 9 | 6/20/2000 | — | 0000 0000 0000 0101 0010 | BLACK TONER(00) | AR-2000 | 0000 0000 0101 0010 | NEW (SPARE) | 12/14/2000 | Tr 2 |
| 10 | | | | | | | | | |

FIG. 52



| Country | 1950 | 1960 | 1970 | 1980 | 1990 | 2000 | 2010 | 2020 | 2030 | 2040 | 2050 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|
| Japan | 7 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 |
| Germany | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| France | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| Italy | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| Spain | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Sweden | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| United Kingdom | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| United States | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| Canada | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Belgium | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| Netherlands | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| Australia | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| South Korea | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| India | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| China | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| Indonesia | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| Brazil | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
| Argentina | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
| South Africa | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
| Uganda | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| Kenya | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
| Malawi | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Zambia | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| Botswana | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 |
| Swaziland | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 |
| Lesotho | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| Sierra Leone | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
| Liberia | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 |
| Ivory Coast | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
| Ghana | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| Nigeria | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 |
| Senegal | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| Gambia | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 |
| Guinea | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| Sierra Leone | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 |
| Liberia | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 |
| Ivory Coast | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 |
| Ghana | 46 | 47 | 48 | 49 | | | | | | | |

ACCOUNTING FACTOR TABLE [1]

| TIME REMAINING BEFORE EXPIRY T_r | ACCOUNTING FACTOR k |
|------------------------------------|-----------------------|
| T_{r0} : MORE THAN 1 YEAR | $k_0=1$ |
| T_{r1} : 6 MONTHS TO 1 YEAR | k_1 |
| T_{r2} : 2 MONTHS TO 6 MONTHS | k_2 |
| T_{r3} : 1 MONTH TO 2 MONTHS | k_3 |
| T_{r4} : LESS THAN 1 MONTH | k_4 |

NOTE THAT $k_0 > k_1 > k_2 > \dots$

FIG. 54

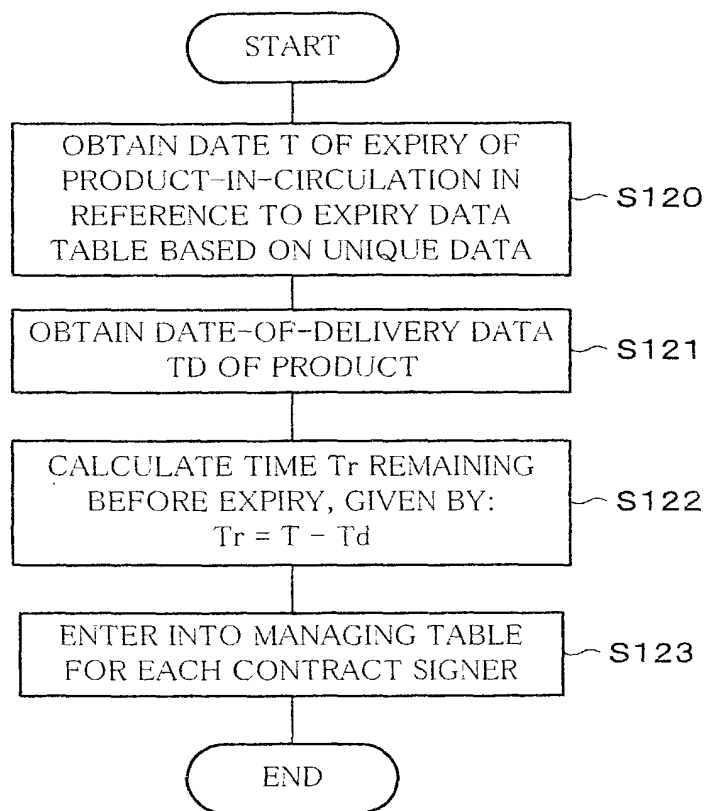


FIG. 55

CONTRACT SIGNER ID : 000125

| No. | DATE OF DELIVERY Td | DATE OF PURCHASE Tp | DATE OF COLLECTION Tc | SPARE ARTICLE DATA | | | | | | TIME BEFORE EXPIRY Tr | PURCHASE STATUS |
|-----|---------------------|---------------------|-----------------------|-------------------------|-----------|--------------|-------------|-------------|-------------|-----------------------|-----------------|
| | | | | FULL DATA (FULL DIGITS) | TOP LEVEL | SECOND LEVEL | THIRD LEVEL | THIRD LEVEL | THIRD LEVEL | | |
| 1 | N/A | — | — | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |
| 11 | | | | | | | | | | | |

2024/11/17 16:46:59, 0001250001

FIG. 57

CONTRACT SIGNER ID : 000125

| No | DATE OF DELIVERY
Td | DATE OF PURCHASE
Tp | DATE OF COLLECTION
Tc | SPARE ARTICLE DATA | | | | | | | | TIME BEFORE EXPIRY 1r | PURCHASE STATUS | |
|----|------------------------|------------------------|--------------------------|--------------------------|----------------|--------------|-------------------|----------------------|------------------|-------------------------|---|------------------------------|-----------------|-------------|
| | | | | FULL DATA (FULL DIGITS) | TOP LEVEL | | SECOND LEVEL | | THIRD LEVEL | | | | | |
| | | | | | TOP LEVEL CODE | TOP LEVEL | SECOND LEVEL CODE | SECOND LEVEL | THIRD LEVEL CODE | TITLE | REMARKS 1 | | | REMARKS 2 |
| 1 | 3/1/2000 | 3/10/2000 | — | 0010 0000 0000 0101 0000 | 00 | CD-ROM | 10 | APPLICATION SOFTWARE | 0000 | "DATA SEARCH" | DATA SEARCH, EXPLOITATION SOFTWARE | FOR PC USE | 12/31/2000 | PURCHASED |
| 2 | 3/1/2000 | — | — | 0010 0001 0000 0000 0100 | 00 | CD-ROM | 10 | APPLICATION SOFTWARE | 0001 | "TRANSLATION ASSISTANT" | JAPANESE ENGLISH TRANSLATION ASSISTANT | " | 7/1/2001 | NEW (SPARE) |
| 3 | 3/1/2000 | — | — | 0010 0010 0000 0000 1100 | 00 | CD-ROM | 10 | APPLICATION SOFTWARE | 0010 | "INTERNET SUPPORT" | INTERNET USABILITY ENHANCEMENT SOFTWARE | " | 7/1/2001 | NEW (SPARE) |
| 4 | 3/1/2000 | — | — | 1100 0000 0000 0000 0111 | 11 | EMPTY MEDIUM | 00 | VHS | N/A | — | GENERAL USE (FIVE IN ONE PACK) | " | 6/7/2005 | NEW (SPARE) |
| 5 | 3/1/2000 | 3/18/2000 | — | 1101 0000 0000 0101 0001 | 11 | EMPTY MEDIUM | 01 | DV | N/A | — | GENERAL USE (FIVE IN ONE PACK) | DIGITAL FORMAT FOR VIDEO USE | 8/20/2000 | PURCHASED |
| 6 | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | |

FIG. 57 (continued)

